Opportunities and Engagement: Coach learning at the Queensland Academy of Sport

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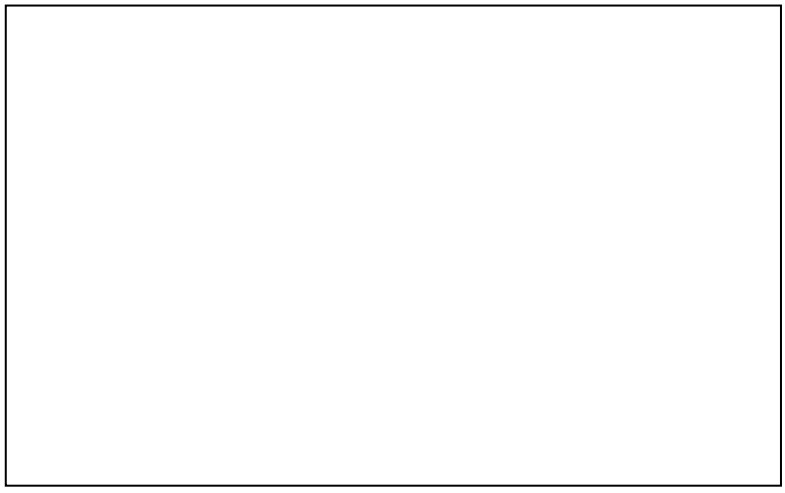
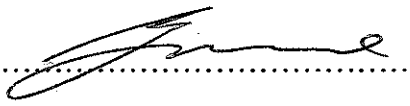
Steven Bernard Rynne, School of Human Movement Studies.



STATEMENT OF ORIGINALITY

The work presented in this thesis, is to the best of my knowledge, original and my own work, except as acknowledged in the text. I hereby declare that I have not submitted this material, either in part or whole, for a degree at this or another tertiary institution.

Signature:  Date: .....04/07/08.....

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LIST OF PUBLICATIONS AND PRESENTATIONS

Double-Blind Peer-Reviewed Publications

Rynne, S. Mallett, C., & Tinning, R. (in press). Understanding QAS coaches' learning at work through affordances and agency. *Association Internationale des Ecoles Superieures d'Education Physique Congress Proceedings*.

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Peer-Reviewed Publications

Rynne, S. (in press). Clarifying the concept of communities of practice in sport: A commentary. *International Journal of Sport Science and Coaching*.

Invited International Conference Presentations

Kellmann, M., & **Rynne, S.** (2007, December). Coaches, training and education in Australia. *Pathways to Coaching Excellence*, German Coaching Institute, Berlin.

Mallett, C., & **Rynne, S**. (2007, August). Formal versus informal coach education: An Australian perspective. *ICCE International Master Class,* Beijing Sport University, Beijing, China.

Mallett, C., & **Rynne, S**. (2005, September). How well does coach education research inform practice and practice inform research? Post-graduate programs in sports coaching. *ICCE International Master Class,* University of Limerick, Ireland.

Rynne, S. (2005, September). Current research in coach education delivery: An Australian perspective. *ICCE International Master Class*, University of Limerick, Ireland.

International Conference Presentations

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Rynne, S. (2006, March). High performance sports coaching: Workplaces as sites for learning. *13th Commonwealth International Sport Conference*, Mooney Valley Racing Club, Melbourne, Australia.

Rynne, S. (2005, December). Learning in the workplace: High performance sports coaching. *4th International Conference on Researching Work and Learning*, University of Technology, Sydney, Australia.

Conference Presentations

Rynne, S. (2007, April). Athletic and coaching histories: Indicators of agency. *6th Annual Postgraduate Conference*, The University of Queensland Marine Research Station, North Stradbroke, Queensland, Australia.

Rynne, S. (2006, April). Where'd you come from: Pathways of performance sport coaches. *5th Annual Postgraduate Conference*, The University of Queensland Marine Research Station, North Stradbroke, Queensland, Australia.

Rynne, S. (2005, April). Learning in the workplace: High performance sport coaching. *4th Annual Postgraduate Conference*, The University of Queensland Marine Research Station, North Stradbroke, Queensland, Australia.

Other Presentations

Rynne, S. (2007, October). Coaches' forum: QAS coaching work, learning that work, recommendations. *QAS Coaches' Meeting,* Queensland Sport and Athletics Centre, Nathan, Brisbane, Australia.

Rynne, S. (2005, December). Learning in the workplace: High performance sport coaches. *Human Movement Studies Seminar Series*, University of Queensland, Brisbane, Australia.

Rynne, S. (2005, November). How do they know that? The learning of QAS coaches. *Presentation to Australian Sports Commission delegates,* Queensland Sport and Athletics Centre, Brisbane, Australia.

Rynne, S. (2005, April). The learning of high performance sport coaches. *QAS Team Briefing*, Queensland Sport and Athletics Centre, Nathan, Brisbane, Australia.

ABSTRACT

Given that the Queensland Academy of Sport (QAS) employs significant numbers of full-time performance sport coaches, it may be accurately characterised as a genuine workplace. As such, it is perhaps most desirable to investigate the ways these coaches learn their work through the application of a workplace learning* (see glossary) framework. Accordingly, throughout this thesis, I will argue that an understanding of the interaction between what the workplace (QAS) affords the individual and the personal agency* of the individual (high performance sports coaches), is important for structuring work environments that facilitate meaningful learning.

Coaching* work can be viewed as a highly complex collection of practices in which effort is made to improve or sustain performance towards identified goals (Dickson, 2001b; Lyle, 2002). Performance coaches are often held totally responsible for competition results that are predominantly complex, dynamic and unpredictable, all of which is subject to intense and continuous scrutiny by fans and the media (Dawson, Dobson, & Gerrard, 2000; Potrac, Brewer, Jones, Armour, & Hoff, 2000). For full-time coaches, such as those employed at the QAS, increased commitments bring increased expectations, pressures and demands. Understanding how these individuals learn to perform the work they undertake, and the influence their employing organisation can have on this learning, was the fundamental purpose of this research.

The traditional view of learning has been steadily replaced with the focus on the person as a member of a sociocultural community in which activities, tasks, functions and understandings do not exist in isolation but rather as a part of broader systems of relations such as those found in workplaces (Hager, 2005; Lave & Wenger, 1991). Regarding workplace learning, Billett (2006) advocates a consideration of the interdependence between the individual and the social when describing learning through

engagement in work practices. This way of understanding learning was extremely generative in the context of this research in that it allowed a consideration of both the individual (the QAS coach) and the organisation (the QAS) when discussing the learning that did, and just as importantly, did not take place.

Analysis of data collected by means of face-to-face questionnaires with the coaches (n=24) and semi-structured interviews with a smaller group of coaches (n=6) and administrators (n=6), revealed that coaches learned through a variety of sources both within and outside of (but often influenced by) the QAS. In addition, there were a range of factors involved in the operationalisation of policy, the working climate and the physical environment that were reported to have a significant impact on the learning of the coaches. In keeping with Billett's theorising, aspects of the individuals' personal agency were also found to be critical to the learning that did and did not take place. Indeed, it was the coaches' personal agency which directed their engagement with the available sources, and their agency was, in turn, influenced by what the QAS afforded them.

The QAS workplace could not be thought of as a benign entity. Previous empirical research has demonstrated that affordances* in workplaces are shaped by workplace hierarchies, group affiliations, personal relations, workplace cliques, cultural practices, race, gender, language skills, worker or employment status, and social norms (Billett, 2001a, 2004c, 2006b). The QAS was no different, with the interview data highlighting the existence of workplace structures, hierarchies and policies, which resulted in varied access and affordances for different coaches. Overall, the results of this research supported the contention that the organisational affordances and personal agency are interdependent in ways that might be considered relational rather than mutual or reciprocal.

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LIST OF ABBREVIATIONS

ACC	Australian Coaching Council
ACSS	Athlete and Coach Support Services
AIAs	Australian Institutes or Academies of Sport. This includes all of the state and territory academies and institutes of sport as the Australian Institute of Sport
AIS	Australian Institute of Sport
BSU	Business Services Unit
CoE	Centre of Excellence for Applied Sport Science Research
CoP	Community of Practice*
IKN	Informal Knowledge Network*
JMC	Joint Management Committee
LTAD	Long Term Athlete Development
LTCD	Long Term Coach Development
NCAS	National Coach Accreditation Scheme
NCCP	National Coaching Certification Program
NESC	National Elite Sport Council
NGB	National Governing Body
NoP	Network of Practice*
NSO	National Sporting Organisation
QAS	Queensland Academy of Sport
SISAS	State Institute/State Academy of Sport
SSO	State Sporting Organisation
UQ	University of Queensland

CHAPTER 1 INTRODUCTION

In Australia, there is a network of high performance sport institutes and academies aimed at fostering superior elite sport performance. The Australian Institute of Sport (AIS) was founded in 1981, initially providing scholarships in eight sports, all of which were based in Canberra. Subsequent to the establishment of the AIS, each State and Territory in Australia developed a functioning academy or institute of sport (South Australian Sports Institute 1982, Western Australian Institute of Sport 1984, Tasmanian Institute of Sport 1985, Australian Capital Territory Academy of Sport 1989, Victorian Institute of Sport 1990, Queensland Academy of Sport 1991, New South Wales Institute of Sport 1996, and Northern Territory Institute of Sport 1996). These state-based academies and institutes combine with the Australian Institute of Sport to make up what is subsequently going to be referred to in this thesis as Australian Institutes and Academies (AIAs). The focus of this research was the Queensland Academy of Sport (QAS).

The QAS commenced operations in 1991 and at that time, there were 5 staff employed with the establishment of 34 individual scholarships totalling $100,000 across 11 sports (Baumann, Shaw, & Smith, 2004; Department of Tourism Sport and Racing Queensland, 1991). By 1996, the QAS had grown to 16 sports with an annual operational budget of $3.3 million (Baumann et al., 2004). At the commencement of the study the QAS was supporting over 650 athletes across 20 different sports (24 programs) throughout Queensland with a budget of approximately $10.7 million and employing 66 personnel across 5 different work units (Baumann et al., 2004). This significant investment in high performance sport has been recognised internationally through commissioned reviews (Duffy, 2000) and is assumed to have significantly

contributed to the high performance levels of Queensland (and Australian) athletes in international level competitions.

The QAS strategic objectives reflected the fact that the Academy was developed to counter perceived failure of an earlier period of time and ignores the processes required to support the achievement of their goals: coaching. The aims included:

- Between six and eight sports to medal annually at World Championships or Olympics;
- QAS athletes are to comprise 20% of the Australian medal tally at the Olympic and Commonwealth Games;
- QAS athletes are to comprise 20% of national teams; and finally;
- A top three ranking against all other state institutes and academies at Commonwealth and Olympic games (Baumann et al., 2004).

These objectives were extended for the 2005 to 2009 quadrennia with an increase in the requirement for representation on senior national teams increasing to 25% and a newly introduced requirement for 25% representation on junior national teams. These demonstrated the unequivocal and unashamed focus on high performance sport and characterise the extremely results-driven nature of the academy.

The overall stated aim was to develop Queensland's elite athletes into successful international competitors through valuable, high quality coaching and support services (Baumann et al., 2004). So, while there were some goals set for coaches, they were individually identified and were not specifically tied to the QAS objectives (P. Day, personal communication, October 18, 2004). Consequently, they were not explicitly included in strategic plans.

The QAS was an initiative of the Queensland Government and at the commencement of the study, was part of the Department of Local Government,

Planning, Sport and Recreation under the portfolio of the Minister for Sport. At a strategic level, the QAS Board was responsible to the Minister for Sport for developing QAS policy and overseeing the overall direction of the Academy. The Board was comprised of eight former elite athletes and leaders in the Queensland sporting community. While the Board had a strategic role in the overall functioning, it was the Executive Director who was responsible for the day-to-day operation of the QAS.

The QAS was structured into five different work units which were responsible for the operationalisation of the QAS objectives. These work units included the Business Services Unit, Athlete and Coach Support Services, Regional Services, Sport Programs, and the Centre of Excellence for Applied Sports Science Research. Each unit had a manager (or director in the case of the Centre of Excellence) who reported both to the Executive Director and to the QAS Board (see Appendix A for further clarification).

The Business Services Unit (BSU), which had nine staff, was responsible for such functions as finance, human resources, public relations, reception, and information centre management. Athlete and Coach Support Services (ACSS) was the second largest work unit and had approximately 20 staff. It was comprised of four smaller divisions; sport science (primarily responsible for athlete testing such as blood lactates), athlete and career education (career counselling support for athletes), strength and conditioning (design and supervision of gym programs), and the sport medicine network (various medical professionals). The Regional Services Unit was established in 2001 with the aim of identifying, developing and supporting regional Queensland's elite and identified developing athletes. The program involved a regionally located facility with a manager, and a small number of support staff and regional coaches.

Sport Programs was the largest unit within the academy. It involved more than 30 staff and was comprised of 3 Sport Programs Managers, 24 coaches, and 3 sport

program officers. The structure of this work unit underwent significant changes over the period of this study. Originally there was one Sport Programs Manager who was responsible for the daily operation of the unit. In 2004, another Sport Programs Manager was added to the structure and in 2005 yet another was added. During the data collection portion of this project, each of the Sport Programs Managers was a former QAS coaches (one team sport and two individual sports). One of the Sport Programs Managers was positioned as the senior manager and the other two were responsible for various other duties. There were approximately 24 coaches who were accountable for the day-to-day operation of the sport programs. There were also three Sport Programs Officers who provided administrative assistance to the coaches and Sport Programs Managers. There was also a position responsible for the management of a number of talent search programs which was removed in 2005. The Centre of Excellence for Applied Sports Science Research (CoE) was the most recent addition to the QAS. This research was made possible with support from the CoE.

In 2004 the CoE was established with the aim of assisting the optimization of performances of QAS athletes, ensuring that the QAS remained at the forefront of athlete development and support (Queensland Academy of Sport, 2006). While the sports scientists employed in ACSS engaged in some research, their main priority was the servicing of the sport programs. The primary function of the CoE was empirical research and it was promoted as the only state-based research centre of its kind in Australia, developed to address the lack of applied sport science research in Queensland. The CoE operated through strategic alliances with Queensland universities, Australian and international institutes and academies of sport and selected industry partners. I was offered one of the first PhD scholarships in early 2004 which evolved from an alliance between the CoE and The University of Queensland (UQ). In

combination, these organisations were able to provide a scholarship that included a stipend, allocated workspaces and computer terminals at both UQ and the QAS facility, and the provision of academic supervision for the duration of the study. As noted in the acknowledgements section, funding was also awarded through an Australian Post-graduate Award (2004), and a Graduate School Research Travel Grant (2006). My position as a researcher within the QAS will be addressed in further detail in the methodology section of this dissertation. Suffice it to say at this point, that the situation provided me with unique research opportunities but also required careful monitoring and thought during the data collection and analysis stages of this project to maintain the quality of the data collected and the overall integrity of the work.

Identification of Research Topic

As will be made obvious later in this thesis, coaches are critical to the performance of elite level athletes. This means that they are integral to the functioning of an organisation which has success in elite level sport as its stated aim. For coaches to operate in what will be characterised as a volatile, challenging and ever-changing environment, they must continue to learn. There are many ways through which this may occur, and it is the aim of this research to help to examine the ways in which this is possible and preferable within an academy of sport. At this point, it would be useful to acknowledge the fact that there were certain requirements that needed to be addressed to ensure that both organisations were satisfied with the work completed.

With regard to topic selection, the QAS provided some direction regarding what they deemed to be appropriate research into sports coaching. Prior to my arrival, the QAS administrators, in consultation with the various work units, developed a list of broad, potential topics. Within the broad topic of 'the coach and the coaching process'

several subsections emerged, each with possible research topics suggested. The subsections included: strategies for optimizing performance; coaching models; skill acquisition and; talent identification and development. The sub-section of 'strategies for optimizing performance' included topics that made broad reference to coach education and development. In light of this direction, the subsequent review of relevant literature, and in consultation with my supervisors, the topic of 'learning in the workplace' was developed and subsequently approved by all parties.

The University of Queensland has a great number of processes that are aimed at ensuring that the work undertaken by PhD students is ethical, rigorous, and unique. To this end, I sought and gained ethical approval from the Behavioural and Social Sciences Ethical Review Committee (BSSERC) at UQ, and ensured that my research adhered to all conditions contained in the National Statement on Ethical Conduct in Research Involving Humans, issued by the National Health and Medical Research Council (NHMRC). I also satisfied the requirements of the School of Human Movement Studies' colloquium process. The colloquium process facilitated the informed critique of the proposed project by a number of internal and external parties. This ensured that the proposed work was relevant, unique, and was being conducted in a manner consistent with the conventions of the field(s). During this time, the number of participants and the most appropriate research methods were agreed upon.

Although somewhat duplicative, the CoE also had a number of processes that needed to be satisfied before final approval of the topic and research methods (these processes have been subsequently refined for future PhD students). The most significant of these was the submission that was required by the Centre of Excellence Research Committee. The aim of this submission was assumed to be to enhance the overall rigor of the project and to ensure that the requirements of the QAS were met

(that is, that the project was to be predominantly applied, with consideration given to the stated aims of the CoE). Again, this requirement was met, meaning that the QAS Board, the Executive Director, and the CoE were absolutely satisfied with the proposed research and thoroughly endorsed the project.

Overall, this project was deemed by the QAS and UQ to be a suitable course of research which could provide empirically supported recommendations regarding how best to facilitate coach learning at the QAS. It was also felt that this research would constitute a unique contribution to the fields of coaching and workplace learning, which would help in achieving the CoE's objectives regarding publications, conference presentations and dissertations.

As outlined above, this research was deemed to be important to the QAS and UQ as evidenced in the provision of a scholarship position and the subsequent approval of the detailed research proposal. There is also a strong rationale behind why this is important as a field of inquiry, quite separate from the more organisational requirements of these institutions. While immersing myself in the relevant literature of the field, it became quite apparent that this kind of research offered the chance to contribute in unique ways to a burgeoning field. Although there is seemingly widespread public and media interest in coaching, it has largely centred on issues of employment and player/coach relationships in the popular media (e.g. Bennett, 2004; Cartwright, 2004) with little consideration given to the complexities of the position or how practicing coaches have developed their craft; how they best learn to be coaches. It has been argued that until more studies are completed using coaches at the professional level, and in a broader range of sports (as opposed to simply focusing on team sports), that the field can not claim to have a comprehensive portrait of coaches and the coaching process (Gilbert & Trudel, 2004a). The research detailed in this thesis has the potential

to help better inform the reporting of coaches' work and may perhaps add to the public's appreciation of the contributions these individuals make.

As noted previously, there have been massive increases in funding and personnel at the QAS and although it has been stated on numerous occasions that the QAS is an athlete focussed, coach driven, administration supported organisation (Baumann et al., 2004; Duffy, 2000), little explicit mention has been made regarding outcomes for coaches and their need for continuous learning about coaching practices. A further indication of their pivotal role is that coaches comprise the largest group of people within the QAS (besides athletes), and despite the acknowledgement of the importance of coaches, professional development has been ad-hoc and largely driven by the individual coach (Day, 2004). So despite recurrent programmatic and infrastructure expenditure, this principle has not been applied to coaching.

Formal coach accreditation (certification) courses comprise the largest form of coach education present in Australia. Reviews within the field of high performance sports coaching, have acknowledged that these current education courses are inadequate for learning what high performance sports coaches need to know (e.g., Dickson, 2001b). Despite these problems, Australian coaches are still internationally recognised as being of the highest quality in a range of disciplines. Questions regarding how this is possible, and how these individuals have been able to achieve this status, remain largely unanswered. Other researchers have stated that further investigation into how and what coaches learn is essential, particularly if informed coach development programs are the aim (Bales, 2006; Duffy, Larkin, & O'Leary, 2005; Irwin, Hanton, & Kerwin, 2004).

Research Questions

The study of talent development in athletes has proliferated in recent years, and while the critical role of the coach is consistently demonstrated, there are few empirical studies and no guiding framework on how coaches develop their own talent (Gilbert, Niino, Wahl, & Conway, 2004). Consequently, this research aimed to address this gap by investigating how high performance coaches employed in an Academy of sport, learn their work. The major research questions for this project were related to three main areas: the individual, the workplace and the interaction between the two. Regarding the individual it was important to better understand the premediate* experiences of each individual as well as what the average QAS coach might look like. As a result, the guiding questions were:

- What previous educational experiences have QAS coaches had?
- What previous athletic experiences have QAS coaches had?
- What previous coaching experiences have QAS coaches had?
- What previous occupational experiences have QAS coaches had?
- What previous experiences did they feel contributed to their ability to undertake their current coaching work?

Regarding the workplace, it was necessary to gain a better understanding of the work requirements and also the overall physical and organisational environment if the aim was to examine the learning that was, and was not, occurring in the QAS. Accordingly, the following broad questions were considered to be important:

- What are the tasks that coaches are required to perform when employed by the QAS? That is, what constitutes the work of QAS coaches?
- Which tasks do QAS coaches find easy and which do they find difficult?
- How do they learn the tasks required of a QAS coach?

- What affects the sources of learning that they choose to access?
- What impact does the physical environment have on the learning of the coaches?

Finally, there was a need to probe deeply regarding the organisational provisions, and also the individuals' personal agency and biographies. Through a clearer understanding of these components it was hoped that the mechanisms underpinning learning at the QAS might be uncovered. As such, the following questions guided the research design:

- In what ways does the QAS facilitate learning for the coaches?
- In what ways does the QAS hinder the learning of the coaches?
- What reasons do QAS coaches give for wanting to learn?
- What stops QAS coaches from engaging in certain learning activities?
- How could the workplace be structured to best facilitate coach learning?

Orienting Framework – Workplace Learning

Before discussing the orientation of this research, it is important to make mention of the way in which the QAS is viewed in this thesis and the associated terminology. This thesis makes use of the term 'QAS' in a collective sense to represent the work, direction and functioning of a large range of individuals. In the main, this refers to the members of the QAS Board, the Executive Director, and the Managers of the various work units (in particular, Sports Programs). The reason for this is that these are the people who are responsible for the strategic direction and day-to-day operation of the QAS. More importantly for this study, these are the individuals most directly responsible for the working conditions of the coaches and the subsequent learning opportunities that are possible. In summary, it is not my intention to promote the view that this group is an indistinguishable mass. Rather, the use of this collective term is an

acknowledgement that these individuals do not act in isolation, nor do they make decisions that affect the work and learning of coaches without significant interaction. Finally, it was not the aim of this work to ascribe praise or blame regarding the current work and learning of coaches. It is simply the aim of this work to systematically examine the current work and learning of the QAS coaches, and to make comment on this situation in light of relevant research and literature from the domains of coaching and learning.

A number of authors in the field have more recently begun to explore the muddy depths of sports coaching, characterising it as messy (e.g., Cassidy, Jones, & Potrac, 2004; Cushion, Armour, & Jones, 2006) and even chaotic (e.g., Bowes & Jones, 2006). As noted by Potrac and Jones (1999), a number of others have begun to call for greater recognition of the social worlds in which coaches operate and a greater consideration of the contextual social factors inherent in performance sports coaching. The strong suggestion is that future research should take into account the social forces that influence and impinge on the lives of coaches (Armour, Jones & Kerry, 1998; Potrac & Jones, 1999). Given that the aim of my research is to contribute towards the fulfilment of the potential of the QAS coaches, this needed to be a significant aspect of this research.

For these reasons, this research is framed from a sociocultural constructivist* perspective, adopting a holistic view of learning and learners. Of specific interest is the notion of relational interdependence* in regard to the individual and the organisation for which they work (Billett, 2006b). Throughout this thesis I will argue that the QAS be viewed as a legitimate workplace of high performance sport coaches, and as such, it is appropriate that a workplace learning framework be used to aid the understanding of the manner in which they learn to perform their work.

The view that learning can be enhanced, developed, and expedited with proper structuring and environmental considerations has gained considerable credibility in recent times (Boud & Garrick, 1999a). As a result, there is a demand for a clearer understanding of the contributions of these environments and how learning within them might be best realised (Billett, 2000). There is, to my knowledge, no reference to this kind of thinking in the sport coaching literature. Within the closely associated field of physical education it is unusual to find reference to the school as a workplace and even more unusual to find reference to workplace learning (National Board of Employment Education and Training, 1994), although paradoxically, it is common to talk of teachers' work. To my knowledge there have been no studies in which sports coaching has been conceptualised in this way. Previous work by Billett (2000) proposes that participation in everyday work activities makes significant contributions to the development of individuals' vocational knowledge. This study proposes that this participation in everyday work activities can provide a basis for understanding the learning possible in the workplace of high performance coaches.

The post-industrial workplace requires employees to be adaptable, multi skilled, independent, and collaborative learners (Ahmed, Lim and Loh, 2002). Many organisations including Microsoft, Hallmark Cards, Johnson & Johnson, Federal agencies, Xerox, Shell Oil Company, BHP Billiton, Hewlett-Packard, Colgate-Palmolive, Chrysler Corporation, Siemens, Toyota, Ford, Honda, Singapore Airlines, and The World Bank have recognised the need for quality learning and have based their knowledge initiatives on the notion of situated learning* (Ahmed, Lim, & Loh, 2002; Fontaine & Millen, 2004; Lock Lee & Neff, 2004; Watkins & Marsick, 1993; Wenger, McDermott, & Snyder, 2002). While the concept of situated learning will be discussed in greater depth later in this thesis, the important aspect to note at this stage is that the

majority of these companies are in fields such as technology that require continual improvement and learning because of regular marketplace turbulence, upheaval and correction. High performance sport coaching can be characterised in a similar way with the requirement for constant change, adaptation and incorporation of new technologies, and the need to engage in complex multiple roles (Lyle, 2002). However, despite wide acceptance of the view that learning occurs everywhere but to different extents and with different efficiency (Marsick & Watkins, 1990), and the acknowledgement of current coach education as insufficient (Dickson, 2001b), there have been relatively few attempts to consider the learning of coaches in the field of high performance sports coaching.

Organisation of the Thesis

As this thesis represents one of my opening contributions to an ever-changing and expanding field of inquiry, the structure of this dissertation will attempt to capture my progression of understanding and how I arrived at the conclusions I make. As such, the thesis will not be structured in the somewhat traditional way (i.e., with chapter two being positioned as a complete review of the literature). It is my aim to make relevant connections with the existing literature as the need arises so that I am better able to capture the progression of my research. I hope to be able to engage the reader with the problem I am addressing and consolidate my position by tapping into the literature that has informed this stance. As Wolcott (2002) suggests, by engaging with the literature in this way, I will strive to make things sufficiently complex without rendering them opaque.

The overall intention is to provide a thorough account of what constitutes the work of QAS coaches, how they have come to learn how to perform this work, followed

by a deeper level of theorising regarding coach learning. To allow this to occur, discussions regarding research methodologies and previous empirical studies will be included as necessary rather than in discrete chapters. The aim will still be to convince the reader that I conducted the research in a manner that satisfied the conventions of the field in systematic, rigorous, and ethical ways. Consequently, I will firstly discuss what it is that constitutes the work of a QAS coach, making reference to the methods that enabled the collection of this data. Then the life histories and sources of learning that the QAS coaches accessed in learning to perform their coaching work will be discussed in detail. Again, this will include a consideration of the specific research methods involved in revealing these results and the relevant empirical literature. The next chapter will be directed towards understanding how the learning of coaches might be accurately theorised, with particular and increasing attention directed towards learning in the workplace and the theory of relational interdependence. The final chapter will summarise the project, drawing conclusions and making recommendations for future research.

CHAPTER 2 QAS COACHES' WORK

This chapter will primarily address the tasks that the QAS coaches perform in their work. This section is not intended to be viewed as a comprehensive review of the coaching science literature but rather an account of the literature that has significantly impacted on this research and has strong connections with the findings herein. For a thorough review, Gilbert's (2002) analysis of coaching science literature and associated publications (e.g. Gilbert and Trudel, 2004a) provide a thorough account of the coaching science literature from 1970 to 2001. Regarding this chapter of the thesis, I will provide an introduction to the coaching literature, give an account of the methods I used to examine the work the QAS coaches perform, discuss the findings in relation to relevant literature and propose some conclusions.

Coaching Definitions

It is necessary to make clear what is actually meant by the term coaching. Currently sports coaching is recognisable in social life as an occupational grouping, as an accumulation of social structures and processes within sport, and as a series of symbols and social values associated with the coaching construct (Lyle, 2002). While it has been contended that those in coach positions are critical to the talent development process (Gilbert, Niino, Wahl, & Conway, 2004; Salmela & Moraes, 2003), Lyle (2002) has described at length, the need for conceptual clarity regarding what is meant by the terms coach and coaching. The fact that terms such as 'coaching', 'instructing', 'leading', 'teaching' and 'training' have been used somewhat indiscriminately in the past has been cited as an indicator for the need to precise definition of terms being used in research (Lyle, 2002).

Schaefer and Gil'ad (2000) take the position that coaching involves leading and guiding an athlete or team towards optimal performance at the most important competition of the period. They go on to suggest that coaching includes instruction in technique, improving the athlete's physical fitness, guiding nutrition, developing tactics for effective application of techniques, preparing mentally, measuring out training loads and recuperation, providing technical, tactical and mental assistance during competitions, analysing past competitions and drawing proper conclusions, possible acclimatisation, and talent identification (Schaefer & Gil'ad, 2000). Lyle (2002) acknowledges that a short, catch-all statement will not suffice for the broad range of coaching acts and settings, and therefore proposes a definitional framework. He subsequently discusses boundary markers that may characterise the expectations and accountability of the coaching process as expressed by the degree to which each of the criteria thresholds are met (Lyle, 2002). The boundary markers include obligation, scale, purpose, nature, intervention, and specificity. In general, the work of QAS coaches satisfies the thresholds for each of the boundary criteria.

Lyle (2002) notes that it is important to distinguish between participation coaches and performance sport coaches. While both fulfil important roles within the Australian sporting landscape, they are functionally different and this has very distinct implications for those conducting research. High performance sports coaching involves the highest levels of athlete and coach commitment, public performance objectives, intensive commitment to the development and implementation of programs, highly structured and formalised competitions, typically full-time work, heavy emphasis on decision making and data management, extensive interpersonal contact, and very demanding and restrictive athlete selection criteria (Lyle, 2002; Trudel & Gilbert, 2006). In this context, coaching can be viewed as a highly complex craft in which effort

is made to improve or sustain performance towards identified goals, through a structured intervention program, which is delivered within contextual constraints of time, place and resource (Dickson, 2001b; Lyle, 2002). This is the view that was adopted throughout this research. While some programs or athletes might be considered to be developmental in focus, given the work requirements and overt performance focus of the QAS, the coaches can accurately be portrayed as high performance coaches. In this way, coaching at the QAS may be viewed as a multifaceted and multidisciplinary process in which complementary contributions are coordinated by a single individual – the coach (Cross & Lyle, 1999). The aim of this process is the purposeful improvement of competition sports performance, achieved through a planned program of preparation and competition generally within a time- and context-bound agreement or contract (Cross & Lyle, 1999).

Research Into Coaching

Due to the multi-faceted nature of coaching, the literature draws upon various areas of research. Coaching science brings together research and theory from exercise physiology, biomechanics, sports psychology, sports medicine, sports sociology, kinanthropometry, motor learning, pedagogy and the like (Schaefer & Gil'ad, 2000; Woodman, 1993). This diversity is amplified through its derivation from, or application to, coaching in a multitude of sports (Gilbert & Trudel, 2004a; Lyle, 2002).

Regarding the orientation of this research, the great majority of empirical literature has pertained to what coaches do (that is, their coaching behaviours) with this type of research comprising up to 75% of the total coaching literature since 1970 (Gilbert, 2002). While this information certainly provides some basic understanding about what it is that coaches do, it is often limited in scope and restricted to descriptions

of hands-on coaching activities or as Lyle (2002) describes it, direct intervention. In his discussion of coaching role descriptors Lyle (2002) notes three other roles including intervention support, constraints management, and strategic coordination, all of which are said to be of increasing importance as the coaching process is more fully implemented.

So despite interest from a variety of fields, there are some areas of coaching that remain relatively under-researched (Duffy et al., 2005; Jones, Armour, & Potrac, 2002). It has been argued that the characterisation of coaching as an 'art' by many is simply a misnomer for the under-investigated practice of coaches (Cushion, Armour, & Jones, 2003). Jones and colleagues (2002) note that the essential social and cultural nature of the coaching process has received little attention from researchers. The fundamental principle underlying their calls for more research on the social aspects of coaching work, is that coaching is essentially a social activity occurring in social settings and should therefore be examined as such (Gilbert & Trudel, 2004a; Jones et al., 2002). This project has attempted to in some way address this paucity of research.

Semi-structured Interviews

Interpretivist Paradigm

In the main, an interpretivist case study design was utilised in this project. The interpretative paradigm has received a great deal more attention within social science research in the past two decades (Sparkes, 1992). It is argued that social organisations are constructed based on purposeful actions of individuals as they negotiate their social roles and define status within the collective social group (Macdonald et al., 2002). Another premise of this paradigm is that meaning making is both an individual and collective action such that a person may be viewed both as a unique individual and as

part of a larger social organisation (Macdonald et al., 2002). It has been argued that while the positivist paradigm (which will be discussed in more detail in the next chapter) is well suited to the natural sciences which deal with inanimate objects existing outside of us, the same cannot be said for the study of the social world, therefore necessitating the use of the interpretivist paradigm (Gratton & Jones, 2004; Sparkes, 1992). Epistemologically, researchers most often adopt a subjective position, acknowledging that the knower and the process of knowing cannot be separated from what is known, and the facts cannot be separated from values (Sparkes, 1992). This is the position adopted in this thesis. Possible reasons that this paradigm has received greater attention in recent times include its ability to allow an insider's perspective, identification and explanation of concepts otherwise ignored by positivists, and the ability to explore and uncover explanations rather than the need to deduce them from measurements (Gratton & Jones, 2004). This project made use of techniques and underpinning epistemological assumptions associated with this paradigm. Both quantitative and qualitative data were collected through face-to-face questionnaires and semi-structured research interviews respectively.

Qualitative Data

The broad aim of qualitative data collection is to provide a wealth of detailed descriptive elements giving the analyst the maximum opportunity to find clues and suggestions (Côté, 1998; McCall & Simmons, 1969; Neuman, 2000). This approach aims to capture qualities that are not quantifiable such as thoughts, feelings and experiences through non-numerical data and analysis to describe and understand such concepts (Côté, 1998; Gratton & Jones, 2004). These are qualities that could certainly be considered to be critical to learning. A major strength of the qualitative approach is

the ability to explore the subjective reality of the individual in ways that respect the uniqueness of the individual while promoting commonalities between people as well as the way these commonalities are linked to wider circumstances that effect people at the micro-level of their lives (Côté, Salmela, Baria, & Russell, 1993; Sparkes & Templin, 1992; Stelter, Sparkes, & Hunger, 2003).

In contrast with quantitative research and positivism in general, qualitative research is generally inductive with a typical pattern of collecting data, followed by analysis of it to develop a theory, model or explanation (Côté, 1998; Gratton & Jones, 2004). It should be noted that this does not mean researchers in this domain arbitrarily interject personal opinion, are sloppy about data collection, or use evidence selectively to support personal prejudices; rather this approach encourages researchers to be forthright and open about their personal involvement. Qualitative reliability is centred on consistency in how, over time, researchers make observations and create links between understanding, ideas and statements (Locke, 1989; Neuman, 2000). In this way, qualitative research places greater trust in the personal integrity of the individual researcher but there are a variety of checks on how evidence is gathered.

Locke (1989) identified a number of concerns that others have raised about qualitative research. These concerns centre on the issues of researcher presence contaminating the data, participants lying to researchers, establishment of external validity, measures of reliability and verification, researcher bias, and trustworthiness of findings. Regarding researchers contaminating the data, I have attempted to incorporate a number of Locke's (1989) recommendations. I was present in the QAS environment at least two to four days each week for greater than three years. In this way, my regular presence allowed me to be somewhat adapted out of the participants' awareness. In addition to this, I conducted the face-to-face questionnaires with the coaches and

therefore was able to establish an initial rapport, which continued to develop both professionally and more socially at work-organised functions. Another strategy that I employed was being quite explicit and transparent regarding the reasons behind the participants' involvement in questionnaires and interviews. Finally, something that I repeatedly did, which helped in countering or reducing many of the issues noted by Locke (1989), was to explain the complete lack of influence I had over the treatment and employment of the coaches at the QAS.

The phenomenon of participants lying to researchers has been suggested to be related to social desirability, giving outsiders a hard time, collusion to protect sensitive information, and a natural inclination to be guarded. Given my lack of influence over how the coaches were treated by the QAS, the length of time I spent in the QAS setting, and the types of information I was seeking, it appears to me that the final issue (natural inclination to be guarded) may have been the most influential reason for lying (if indeed it occurred at all). The highly competitive nature of high performance sport may well have led these individuals to be quite guarded in their discussions with others about their coaching work. Indeed, the data collected in the interviews suggested just that. Again, to counter this, I had made it clear that their input would remain confidential and anonymous, and that I was not in a position to influence their employment at the QAS. In addition, on a number of occasions I explained that the whole purpose for this research was to better understand the work of QAS coaches and perhaps make recommendations regarding how best to improve their learning environment. In short, I was there to understand their work and how they perform it, not to pass judgement on them.

Reliability and public verification of data has been noted as a concern of some (Culver, Gilbert, & Trudel, 2003; Locke, 1989). Regarding this project, and qualitative

data more generally, the reality is that if two researchers looked at the same setting or even the same data, their findings may be slightly different (Locke, 1989). This does not indicate poor research but rather may be reflective of two interpretations offered from slightly different perspectives. In qualitative research, the ultimate concern is that the data be neutral, not the investigator. Given the investment of time and the rapport established with a number of coaches, there was a dangerous temptation to 'go native' and adopt rather than understand the insider's viewpoint (Locke, 1989). To counter this, in addition to some of the previous actions detailed, including the length of my stay and the acknowledgement of my personal biography, I had regular meetings with my supervisors and also obtained data from both coaches and administrators. For these reasons, these limitations may be seen as being less of a concern in this research.

Finally, the trustworthiness of the findings in qualitative research is something that might be better thought of as the development of an 'agreement' in the context of qualitative research (Locke, 1989). My aim was to establish 'authenticity' through the presentation of a fair, honest and balanced account of social life from the perspective of the participants as reported by me (the researcher) (Neuman, 2000). For this to occur, the data must be organised and used in such a way that the reader is convinced and persuaded to agree with what is proposed (Culver et al., 2003). The point to be made is that there is no assertion that what is found is the truth (Locke, 1989). Rather, researchers offer themselves as the primary instrument of inquiry and explicitly acknowledge that research findings are personal constructions (Culver et al., 2003). Of course these findings should be supported by sufficient detail so that others can judge whether the researcher is trustworthy and insightful (Culver et al., 2003; Locke, 1989). In the end, validation comes from the reader (Locke, 1989). So with respect to calls for external validity, I make no claims regarding the generalisabilty of the findings of this

research. That is certainly not to say that the results have no applicability (Locke, 1989). Instead, it is the role of other readers to determine whether the findings are potentially relevant to their context.

Interview Design

Research interviews are the most common method of qualitative data collection (Gratton & Jones, 2004). In relation to coaching research, qualitative interview methodologies have become increasingly utilised (Côté, 1998; Gilbert & Trudel, 2004a). The underlying principle is that the best way to find out information from someone is to ask them and these questions generally explore the dimensions of 'why' and 'how' (Gratton & Jones, 2004; Jones, Armour, & Potrac, 2004; Neuman, 2000; Whitson, 1978). It has been proposed that the three best situations in which to use interviews are where there is a low population, where the information is expected to vary considerably and is likely to be complex, and finally where the research is exploratory (Gratton & Jones, 2004). These three characteristics were present in the QAS context. First of all, the population of coaches and administrators was relatively low with less than 25 coaches and less than 15 administrators being considered suitable for inclusion in the study. Second, the purpose of the research was to characterise the complex interactions between the workplace and the individual regarding learning. The responses were necessarily idiosyncratic and highly variable. Given the huge variation in the experiences of QAS coaches recorded in the face-to-face questionnaire (the detail of which is provided later in this thesis), the coaches' responses regarding the significance and construal of these experiences were similarly varied. Finally, given that no research had been conducted regarding the work of QAS coaches, any

investigation into the work tasks, experiences, influences and underlying personal agency was considered to be exploratory.

Four main types of interviews exist: structured interviews, unstructured interviews, focus groups, and semi-structured interviews (Gratton & Jones, 2004). Semi-structured interviews were used in this study because they allowed a degree of standardisation and commonality between interviews while allowing the coaches and administrators to discuss issues of importance that arose outside the scope of the original line of questioning. Semi-structured interviews can achieve greater insight for the researcher by allowing unexpected data to emerge, assessment of body language, and by establishing trust and rapport (Gratton & Jones, 2004; Whitson, 1978). Above all, it allows the researcher to develop a sense of time, history and experience rather than collecting a series of static responses (Gratton & Jones, 2004; Whitson, 1978).

It should be acknowledged that there are some aspects of interviews that can be problematic (Gratton & Jones, 2004; McCall & Simmons, 1969). First of all, interviews require more resources and the analysis of the data collected may be difficult (Gratton & Jones, 2004). As noted in the discussion of qualitative research, this form of data collection may be prone to bias through often unconscious verbal and non-verbal reactions (Gratton & Jones, 2004; McCall & Simmons, 1969). There are also problems associated with the interviewee who may dominate the interview, leading it in an unwanted direction, and it must be acknowledged that the quality of the data is dependant upon the responses of the interviewee with consideration given to environment, experience, as well as the capacity of self-expression and recall ability (Gratton & Jones, 2004; McCall & Simmons, 1969). Indeed, it must be considered whether the interviewee is in a position to have valid knowledge on what is being researched or whether more or less transient features of the interviewee's life history

immediately prior to the interview is colouring the testimony (McCall & Simmons, 1969). In addition to the above 'sins of commission', 'sins of omission' or null data are just as important to consider as they are more difficult to discover and analyse (McCall & Simmons, 1969). Despite this, it has been proposed that asking the right open-ended questions will provide key information about how performers are experiencing their own learning (Jones et al., 2004). Prior to the commencement of the interviews I underwent training and as will be discussed next, I conducted a number of pilot interviews.

The semi-structured interview protocol was developed in collaboration with a schedule used by Mallett and colleagues (2007) in their study involving Australian Football League coaches. Data collected from the face-to-face questionnaires were incorporated into the design along with aspects relating to Billett's (2004) notion of relational interdependence. The interview protocol was modified slightly for use with the QAS administrators. In October 2005, a pilot interview was conducted with a club-based football coach and as a result of this interview some minor modifications were made with regard to the flow and sequence of questions. Again, the administrator interview was modified in line with the changes to the coach protocol. In late November 2005, a pilot was conducted with a QAS administrator and this time, greater emphasis was placed on gaining feedback regarding the length of the interview, consistency between questions and participant interpretations. The protocol was deemed appropriate for use with the QAS coaches and administrators and the semi-structured interviews began in late December 2005. The final interview protocols (see Appendices B and C) took an average of 82 minutes to conduct, with the longest lasting for 110 minutes and the shortest being completed in 60 minutes. The administrator

interviews were generally slightly shorter than the coach interviews, lasting for an average of 76 minutes whereas the coach interviews lasted an average of 88 minutes.

Once the interviews had been completed, they were transcribed verbatim. Once transcribed, they were checked for accuracy and returned to the participants for member checking. The participants were asked to check for accuracy regarding the typography, and also accuracy regarding the intent of their comments. This is referred to as member checking and in its most basic form it refers to participants checking the accuracy of the interview transcripts (Culver et al., 2003). In this research, if participants found errors or if they had changed their mind regarding any of their responses, they were asked to submit the changes to me. At the very least, participants were required to make contact with me to indicate that they were comfortable with all aspects of the interview transcript. Opportunity was also provided for participants to make comment on the research more generally. I made myself available for consultation weekly at the QAS and also attended the vast majority of QAS-organised coach meetings. By gaining a range of coach interpretations regarding the data, it is envisaged that this has strengthened the overall value and meaningfulness of this research. It should be noted that this extension of member checking is not common within empirical sport research (Culver et al., 2003).

Participants

All QAS coaches were given an invitation to be part of the semi-structured interviews. Information was presented at a whole QAS briefing and then further specific information was delivered to all coaches in the subsequent coaches' meeting. Coaches were asked to volunteer for the semi-structured interviews and they were required to contact me via email to maintain anonymity regarding their involvement. I

then individually contacted all interested coaches with a view to selecting coaches across a variety of categorisations. These categories included foreign and domestic coaches, team and individual sports, high performance and developmental programs, as well as coaches with different educational, coaching, and athletic experiences (as described by participants in the face-to-face questionnaires). The first six coaches to volunteer happened to satisfy these criteria and as a result all other potential participants were advised that recruitment for the project had closed. The six coaches that were selected for inclusion included four individual sport coaches (Charlie, Craig, Carl and Calvin) and two team sport coaches representing direct interceptive* and indirect interceptive* activities (Clarke and Chris respectively). One coach was categorised as a foreign coach while the remaining five were Australian in origin. Further, four of the coaches were in charge of programs designated as international while two were involved in developmental programs. The coaches had an average of approximately 20 years of experience coaching the sport that they currently coached (range = 4-31yrs). Five of the six coaches interviewed had greater than 17 years of experience coaching in their sport.

It should be acknowledged that by only choosing from those coaches who initially volunteered, I may well have gained a cohort that was already interested in the learning issues of coaches. While the learning of less motivated coaches is of interest, it was felt that these volunteers may well have the most to contribute and given that they satisfied my initial wishes for diversity of coaching categorisations I felt that it was entirely appropriate to proceed.

The involvement of a range of administrators was also sought for this phase. I identified a range of administrators who I believed would have something useful to contribute regarding the learning of QAS coaches. I identified this based on their

current involvement with coaches, their impact on policy and QAS structure and also through informal discussions with coaches and administrators. I contacted each of these people to provide them with the information sheet and to seek their involvement. All contacted parties agreed to be involved and times and locations were subsequently negotiated. The administrators ranged in their level of responsibility and authority from manager to board member (see Appendix A for further clarification). The administrators were Alan, Andrew, Ashley, Aaron, Aidan and Alastair.

Ethical Considerations

Certain measures were taken to ensure that this research was ethical. Firstly, the project was thoroughly reviewed by the University of Queensland ethics committee in accordance with the National Health and Medical Research Council's guidelines, and was reviewed by the Centre of Excellence Research Committee at the Queensland Academy of Sport. These bodies deemed this research appropriate to conduct. In the documentation submitted to these review committees, particular consideration was given to the issue of informed consent. All coaches and administrators were provided with information about the research process and were asked for their written consent (see Appendices D and E respectively). An aspect that was heavily emphasised was the freedom to withdraw at any time without fear of reprisal. Prior to the commencement of all of the semi-structured interviews, I made it clear, that as a researcher, I had no influence whatsoever regarding their employment and how they were treated within the QAS. Related to this is the issue of anonymity.

While anonymity can never be guaranteed, strict precautions can be taken to reduce the possibility that the participants can be identified in the products of research (Locke, 1989). Each participant was referred to on all documents and files by a

pseudonym to help facilitate anonymity. Given that at the time of the research there were only two female coaches, the decision was made to assign male pseudonyms to all coaches. All coaches were assigned pseudonyms beginning with the letter "C" and all administrators were assigned pseudonyms beginning with the letter "A".

The interview files were stored in a secure location within the Queensland Academy of Sport's facility at the Queensland Sport and Athletics Centre at Sunnybank. I was the only person who had direct access to these materials as the computer files remained password protected and I had the only set of keys to the filing cabinet in which paper copies of the data were stored.

Data Analysis

The physical volume of qualitative data is large (Locke, 1989). The majority of qualitative data is presented in the form of relatively unstructured textual material, which requires reduction to allow further, more fine-grained analysis (Côté & Salmela, 1994; Locke, 1989; Marshall, 2002). In terms of analysing qualitative data, there are generally three procedures: data reduction, data display, and drawing conclusions/verification (Gratton & Jones, 2004). This was the case for the data collected in the semi-structured interviews, which involved an interpretative analysis of the interview data following procedures outlined by Côté, Salmela, Baria, and Russell (1993). In this form of analysis, the theoretical assertions were devised by induction as a means of explaining the data, rather than data being collected to test a theory (Côté et al., 1993; Locke, 1989). It should be acknowledged that similar to the procedure advocated by Irwin and colleagues (2004), I read and listened to the interview transcripts repeatedly in order to ensure familiarity with the material. I estimate that I listened to each interview recording a minimum of three times and read the transcripts

in their entirety a minimum of three times (not to mention the enormous amount of times I referred back to interview segments during the coding process).

The process of interpretational qualitative analysis involves partitioning what is seen, heard and read into coded chunks of information firstly through the creation of tags which is then followed by the generation of categories (Côté & Salmela, 1994; Côté et al., 1993). The stipulation is that codes should be valid (that is, accurately reflect what is being researched), mutually exclusive (distinct with no overlap), and exhaustive (all relevant data should fit into a code) (Gratton & Jones, 2004). This relies on the analysts' subjective decision-making process and can be enhanced through the use of decision-making heuristic such as that developed by Côté and Salmela (1994). The construction of meaning units for this phase was based on this decision making heuristic. It should be noted that the categories necessarily remained flexible as they were derived from data analysis and needed adjustment as the process continued (Côté et al., 1993).

Manual manipulation of unstructured qualitative data is laborious and time consuming (Côté et al., 1993). There are software programs designed to assist researchers during interpretational qualitative analysis. One such computer software program which was utilised in this phase of the study was QSR Nvivo (version 7). This program helped facilitate the coding of the data and the construction of meaning units, allowing conclusions to be drawn more efficiently. It enabled me to edit, visually code and link documents as they were created, coded, managed and searched. While I acknowledge that there are a variety of opinions about the use of qualitative data analysis software packages, I subscribe to the view put forward by Marshall (2002) that wet-ware (the researcher's thoughts and interpretations) matter more than software or hardware in qualitative research. This view is supported by Côté and Salmela (1994),

when they explain that the analysis relies on the analysts' subjective decision making processes.

Despite the appearance of a very ordered set of steps and principles as outlined above, it should be noted that from my perspective, this form of qualitative research did not feel particularly ordered and sequential at various stages. Part of this is the acknowledgement that qualitative research follows a less linear path than does quantitative research (Marshall, 2002; Neuman, 2000). Even with the use of a decision making heuristic and a software package to aid the qualitative data analysis, this research made successive passes through steps, sometimes moving backwards and sideways before moving on. Marshall (2002) proposes that qualitative coding requires researchers to be 'artisans' rather than alchemists or housekeepers. The contention is though, that this form of research is systematically and logically rigorous, albeit in different ways to quantitative research (Neuman, 2000).

There are a number of checks that are generally put in place during analysis in qualitative research. These include a consideration of other research in the area, checks for internal consistency, and identifying the existence of confirming or disconfirming evidence (Locke, 1989; Neuman, 2000; Patton, 2002). A final indicator of the integrity of the data collection and analysis is that the completed study should be presented as a textured web of interlocking details which participants have access to and other researchers can critique, checking references and sources (Locke, 1989; Neuman, 2000). It is my intention to support any claims with sufficient quotational data so that the reader may be able to somewhat judge for themselves the accuracy of the claims made.

I have already discussed the process of member checking employed in this study in a previous section and will therefore not repeat the discussion here. Suffice it to say that member checking was one technique utilised in this study to help establish validity.

Similarly, I have already discussed my immersion in the QAS environment over a long period of time. This certainly helped me in my analysis and interpretation of the data in this project. Regarding the process of coding, a major check was the use of triangulation. Method triangulation is achieved by mixing qualitative and quantitative styles of research and data sequentially or in parallel (Gratton & Jones, 2004; Neuman, 2000). In this project, the data collected in the face-to-face questionnaire helped provide confirming evidence for some aspects of the semi-structured interviews (with the reverse also being true). The possible difficulties of this are considered in the next section. Consideration was given to variations in responses between coaches and administrators as separate groups, and also between individual coaches and individual administrators. This is somewhat similar to one of the validity tactics identified by Gilbert and Trudel in their 2001 study. Although the analysis was largely inductive, there was some theoretical triangulation with a variety of theories on learning being considered (as will be discussed in a later chapter). Theoretical triangulation means that the same situation is examined from different theoretical viewpoints early in the planning stages or when interpreting data (Gratton & Jones, 2004; Neuman, 2000). In this research, extensive reviews of relevant literature were used when considering both the raw data and the subsequent analysis.

Another significant method utilised in the process of coding was triangular consensus. This has been variously referred to as peer review, peer debriefing, and generally refers to discussing codes or results with knowledgeable colleagues who act as sounding boards (Culver et al., 2003). It has been proposed that for best results, feedback should be garnered from those familiar with the research as well as those external to the project (Culver et al., 2003). For this project, this was possible through discussions with both those immersed in the field of sports coaching, as well as those

from the fields of physical education pedagogy, and workplace learning. It is crucial to understand that alone, none of these measures assure validity and rigour, but in combination they provide some indication of the quality of the research.

Modelling Coaching

Prior to detailing the coaching tasks identified through the semi-structured interviews, it is necessary to make mention of some existing models of the coaching process. There have been a number of attempts to create models related to coaching aimed at capturing certain aspects of the process. The overall aim of such models is to assist understanding of the coaching process based on empirically derived, or optimally envisaged coaching practice. One broad criticism levelled at attempts to model coaching has been that these representations often reduce the complexity and scale, and do not sufficiently account for the essential social and cultural elements (Cushion et al., 2006). A significant goal of coaching researchers has been and continues to be, to better understand coaching and to present it in an accessible format while remaining true to its dynamic, complex, messy reality (Cushion et al., 2006). In reference to the first criticism regarding over-simplification in representations of coaching, a significant factor has been the strong positivistic influence in existing literature (Cushion et al., 2006). The positivistic paradigm has at its core, strong reductionistic values (Cushion et al., 2006).

It has been noted that there are four commonly cited models 'for' the coaching process (Cushion et al., 2006; Lyle, 2002). Models 'for' the coaching process may be thought of as idealistic representations of the process (Cushion et al., 2006). These include Fairs (1987), Franks et al. (1986), Sherman et al. (1997), and Lyle (2002). While all had some bearing on my thinking, the model by Lyle (2002) has been of

greatest influence in my conceptualisation of coaching. Lyle's model also happens to be the most recent of the noted models 'for' coaching. The model is founded on 20 assumptions regarding the nature of coaching work, and is built around a further set of 14 assumptions that Lyle (2002) terms 'building blocks'. These building blocks may be thought of as implementation assumptions as he proposes that while they are not obvious in any diagrammatic representation of coaching, they are necessary for implementation (Lyle, 2002). These building blocks include such things as 'information base', 'knowledge and skills of the coach', 'performance analysis' and the like (Lyle, 2002). A strength of the model is the acknowledgement of external constraints and the cultural dimension of coaching due to contextual factors and the interpersonal relationships inherent (Cushion et al., 2006).

Lyle's (2002) model is by far the most comprehensive model of coaching and because of the publishing medium (book), the author was able to go into greater detail about the nature of model building, underpinning assumptions, and was also able to produce a model that was far more complex than would otherwise have been possible. The conceptualisation represents an attempt to model coaching in a way that characterises the activity as a holistic, interdependent and interrelated enterprise (Cushion et al., 2006; Lyle, 2002) and this may be considered to be a significant strength. By moving away from other attempts, which characterised coaching less as a process and more as a series of episodes, this model is better positioned to be viewed in relation to high performance sports coaching. Because of this, it might be argued that it has greater relevance to the work of QAS coaches and therefore warrants greater attention in this review (although the limitations in viewing coaching as a process will be discussed later).

While Lyle (2002) argues that coaching should be viewed more holistically rather than being oversimplified or characterised as episodic in nature, he describes coaching as a process which can meaningfully be broken down into four levels of coaching role descriptors. The first of the role levels has received the lion's share of research focus and is termed *direct intervention*. This involves purposeful activities focussed on performance enhancement and can include activities such as training or recovery sessions and competitions. Another role level is *intervention support* and these are activities that support or prepare for intervention. This is an area that has received less attention and includes the coaches' role with respect to planning, administration, data management and counselling. *Constraints management* is characterised by attempts to manage situational factors to best advantage the athlete and the coaching process. It incorporates such factors as competition schedules, personnel and equipment availability and athlete support services. The final level is *strategic coordination* and the function of this role is to ensure that the progress is continuous and remains compatible with the stated objectives. This level requires coaches to undertake the particularly difficult task of evaluating and predicting the combined effects of the multitude of variables that affect both coaching and the performance of athletes (Lyle, 2002). These four broad types of coaching tasks provide a useful way in which to meaningfully categorise the work of coaches and mention will be made of them in relation to the work of the QAS coaches later in this chapter.

Lyle (2002) suggests that the degree of control that the coach exerts over the aforementioned variables will be increased as the levels of roles are implemented. It appears to me that the QAS coaches implement all four of the levels of coaching role descriptors although the emphasis placed on each role varies depending on the coach and the aims of the program. The implementation of all levels of role descriptors should

be recognised as an extremely complex task. Indeed, Lyle (2002) notes that the strategic function alone is made more complicated, both intellectually and practically, if there is a large team of support personnel and other parties involved. The QAS certainly has a multitude of other partners, as will be outlined in relation to their tasks in a moment.

Although it is acknowledged by Lyle (2002) as such, one of the weaknesses in the model is the lack of detail regarding the relationships between components and stages, his argument is that this is one of the reasons for the model; to stimulate discussion, analysis and research to better characterise the relationships and influences (Lyle, 2002). While the lack of detail regarding the relationships between component parts is a significant issue, his claim that the model is useful for research is somewhat substantiated. Another significant weakness is the complexity of the model (Cushion et al., 2006; Lyle, 2002). This is somewhat unavoidable given Lyle's (2002) aim of a developing a comprehensive process model of what has been described as an infinitely complex process (Cushion, 2001; Kidman, 2001; Lyle, 2002). Lyle (2002) reconciles the complexity in the model with the need to produce a model that has the potential to encompass all coaching practice. Cushion and colleagues (2006) note that the model presents the process as being systematic to the point of being mechanical and question how it might stand up to being tested in the messy reality of practice. While this is a distinct concern, the fact that many of the underpinning assumptions cited by Lyle (2002) refer or relate to the complexity and dynamic nature of coaching, suggests that the model may be robust enough to stand up to the rigors of more empirically derived scrutiny.

While my research was not aimed at scrutinising the coaching process, some of the findings suggest that Lyle's model was fairly relevant to the work of QAS coaches,

but the specifics of their practice may be lost in the necessarily generic nature of the model. For example, the work of QAS coaches in disseminating information to coaching colleagues or even representing the organisation at sporting and non-sporting events, are not well captured in the model. Perhaps Lyle would suggest that this is peripheral to the coaching process and therefore should not be part of a process model. Having said that, the QAS coaches and administrators identified these (and other) aspects as tasks that the coaches were required to perform. These tasks may indeed fit well in a higher level of categorisation such as strategic coordination or constraints management but again, they do not easily fit into such groupings. It should be noted that some models 'of' coaching are able to encompass aspects of the QAS coaches' work sufficiently, without the need for complicated and convoluted diagrammatic representations (e.g., Côté et al., 1995).

It has been argued that there are very few models 'of' the coaching process that have been derived from rigorous research (Lyle, 2002). Models 'of' coaching are those developed from a description and analysis of practice (i.e., are based on empirical research) (Cushion et al., 2006; Lyle, 2002). The inherent variation in practice makes it difficult to propose an all-embracing model but the utility of such models is rooted in the strong relationship between principles and practice (Lyle, 2002). Much of the research involved in the development of models of coaching is informed by the positivist tradition although there is research using qualitative methodologies (Cushion et al., 2006). There are a number of examples of researchers developing models 'of' coaching. Three examples of the models of coaching include d'Arripue-Longueville et al.'s (1998) conceptualization of coach-athlete interaction, the coaching practice model proposed by Côté and colleagues (1995) and the coaching performance model proposed by MacLean and Chelladurai (1995). While the model by Côté and colleagues (1995)

has been highly generative regarding my theorising of the work of coaches, the MacLean and Chelladurai (1995) model was of use in the basic categorisation of QAS coaching tasks.

The stated aim of MacLean and Chelladurai's (1995) study was to define dimensions of coaching performance for coaches and to develop a scale to measure those dimensions. A model comprised of six dimensions of coaching performance was developed from the sub-division of three broad categories derived from the literature-based model employed in their study (MacLean & Chelladurai, 1995). The broad categories were behavioural product factors, behavioural process factors related to the task, and behavioural process factors related to maintenance of the organisation (MacLean & Chelladurai, 1995). The six dimensions resulting from the further subdivision included team products, personal products, direct task behaviours, indirect task behaviours, administrative maintenance behaviours, and public relations behaviours (MacLean & Chelladurai, 1995) (see Figure 1). The authors subsequently developed what they considered to be a psychometrically sound Scale of Coaching Performance (SCP).

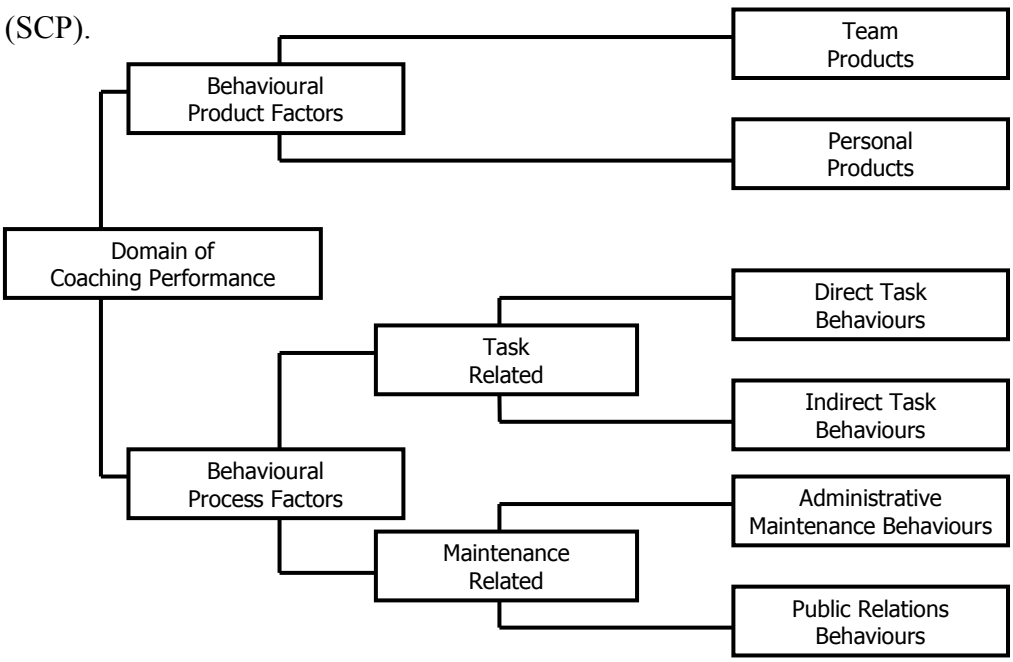


Figure 1. The dimensions of coaching performance (MacLean & Chelladurai, 1995).

MacLean and Chelladurai (1995) contend that the domain of performance is identified by investigating the behaviours associated with the job. While this will no doubt provide a great insight into what the coaches do, it is important to also consider why the coaches do it. For example, one of the criteria developed to reflect a dimension of the conceptual model was 'making coaching decisions during competitions'. While this is certainly an important aspect of coaching performance, the result of that decision and the underlying information on which that decision is based will surely be as important regarding judgments of coaching performance. So while there is merit in limiting performance evaluation to directly observable behaviours, there are some potentially important aspects of coaching practice which will not be accounted for.

Another issue is that the authors' account of indirect task behaviours is limited to recruiting and scouting, ignoring other 'off-court' tasks of the coach such as managing support personnel, and ensuring equipment or venue availability as previously identified by other authors (e.g., Lyle, 2002) and as confirmed in the study of QAS coaches. It may be that these tasks were not performed or at least not valued by the Canadian coaches in the MacLean and Chelladurai (1995) study but perhaps they were simply not considered for inclusion.

Finally, a weakness of the model is that although it acknowledges the occupational context of the coach, it fails to examine the detail of the coaching process that surrounds it (Cushion et al., 2006). There is certainly a greater consideration of the influence of the surrounding environment in the initial discussion regarding the evaluation of coaching performance, however, aside from noting that it contaminates or confounds the evaluation of coaches' performance, there is no account of it in the scale.

While these issues have meant that this model has been somewhat limited in its application to the entire research involving the QAS coaches, a contribution it has made

relates to its strong consideration of the organisational demands placed on the full-time employed coach. As noted by Cushion and colleagues (2006) the model adopts an occupational and organisational approach to coaching. In particular, a feature of this model that is often ignored in discussions of coaching work, is the 'maintenance related' dimension and the associated 'administrative maintenance behaviours', and 'public relations behaviours'. This approach is potentially useful when considering the work of full-time employed coaches given that evaluations of the performance of coaches in such contexts have been traditionally based on extremely narrow terms of reference and on flawed or confounded information such as win/loss records (MacLean & Chelladurai, 1995). In summary, while this model was somewhat limited in the contributions it could make regarding the interpretation of the data collected and subsequent analysis of coach learning, it provided a simplistic framework by which the tasks of QAS coaches might be categorised.

QAS Coaching Tasks

QAS coaches and administrators identified a range of tasks which they considered to be of significance to their work. Through an inductive analysis of the semi-structured interview transcripts, 11 categories of tasks were identified. They included (in no particular order) administration, hands-on coaching, liaising with stakeholders, managing a team of support staff, managing the program or squad, personal support for athletes, programming, representing the QAS, research involvement, sharing with other coaches, and talent identification/selection.

One coach was able to categorise these further by stating that there were three broad categories, *"coaching, management, and administration"* (Craig). While Craig's categorisations have some merit, it is certainly possible to see some slippage between

the terms ‘management’ and ‘administration’. For this reason, the various different tasks comprising the work of QAS coaches will be discussed in relation to the dimensions of coaching performance as outlined by MacLean and Chelladurai (1995). It should be noted that each of the dimensions and similarly, each of the inductively derived categories, are necessarily interrelated and somewhat fluid. With this in mind the following sections will detail the work of QAS coaches as described by the coaches and administrators and as represented in the schematic provided in Figure 2. Reference will also be made to Lyle’s (2002) well defined levels of coaching role descriptors, as previously discussed in this section.

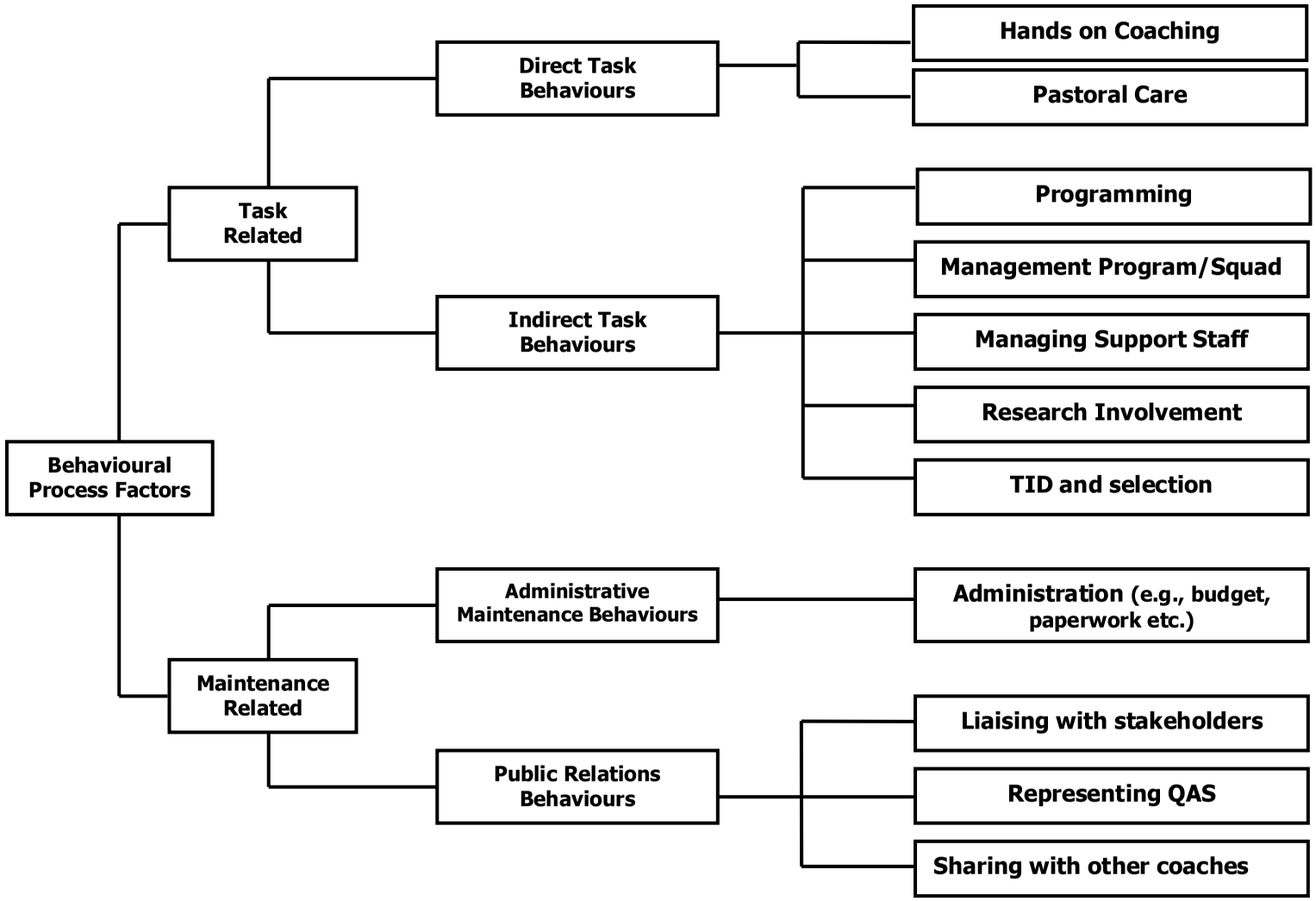


Figure 2. Categorisation of the work of the QAS coaches (adapted from MacLean and Chelladurai, 1995).

Direct Task Behaviours

The category of direct task behaviours as described by MacLean and Chelladurai (1995) refers to the *"application of interpersonal skills and appropriate strategies and tactics used to enhance the performance of individual athletes and the team as a whole"* (p. 199). In this way it is somewhat similar to Lyle's (2002) direct intervention coaching role descriptor. The notable difference is the inclusion of planning and programming in the former whereas Lyle's (2002) conceptualization includes planning activities in a separate categorisation (intervention support). A possible reason that planning was included in the direct task behaviours dimension in MacLean and Chelladurai's (1995) study may be due to the fact that their research was specifically aimed at determining the performance of a coach and evidence of planning effectiveness may be observed directly at practice or competition.

Having said that, there is merit in including programming in a separate category because although it is acutely related to the performance of the athletes, it is generally performed at a time and place removed from the direct coaching context. Given that the current study is not particularly concerned with direct evaluations of coaching performance, I will advocate the inclusion of planning in the second task related dimension; indirect task behaviours. Part of the reason for this slight reconceptualisation of direct task behaviours is the need to somewhat widen the conceptualization of indirect task behaviours. While I will go into more detail in the specific section dealing with that dimension, as a broad guide I am advocating a slight reconceptualisation of direct task behaviours and indirect task behaviours, so that the former is more in line with Lyle's notion of direct intervention, and the latter is more broadly defined. For the purposes of this study, I propose that indirect task behaviours

encompass aspects of management as well as programming, while maintaining the already present theme of talent identification and recruiting. Regarding the work of QAS coaches, two categories of work appear to be congruent with direct task behaviours; hands-on coaching and pastoral care.

Hands-on Coaching

All of the coaches described the need to be in direct contact with athletes as exemplified by statements like *"you can write all the programs in the world but if you're not monitoring and keeping an eye on how the athletes are progressing then it's not really coaching"* (Carl). 'Hands-on coaching' as described by the QAS coaches and administrators, appears to be congruent with Lyle's (2002) direct intervention role descriptor.

The centrality of this role was noted by a number of the coaches and four of the six coaches referred to hands-on coaching as either the most important tasks they performed or the primary reason that they were employed. For example, Carl stated that *"direct contact with athletes* [is most important to my performance as a coach]*"* while Craig noted,

> *That's what I'm employed to do. I have to get the best out of the athletes and it is no good sitting in an office pushing paperwork from side to side when I have to get the best out of the athlete.*

Likewise, the administrators noted the significance of direct intervention to the work of the coaches:

> [the major task of a QAS coach is] *to provide the technical expertise and the training and coaching of athletes … one of the reasons I think we*

hire particular coaches is because of their expertise in the technical, coaching side of things. (Aidan)

A number of sub-tasks were identified, which satisfied Lyle's (2002) description of direct intervention, as involving purposeful activities focused on performance enhancement. These included attending competitions, conducting training sessions, providing direction regarding program expectations, and providing a range of services. Given the elite nature and performance orientation of the academy, it is not surprising that an administrator stated *"the most important, highest priority role is supporting athletes in international competition"* (Andrew).

Regarding the provision of a range of services, coach and administrator comments supported previous empirical research, which suggests that the coach is required to provide a multitude of services to the athletes in their charge (Cassidy et al., 2004; Jones et al., 2004; Lyle, 2002). Administrator Alastair stated that *"*[the coach has to] *provide a whole range of um, services to athletes without necessarily being a specialist in the support services themselves"*, while Aidan suggested that *"the coach sometimes does have to play scientist, psychologist and dietician and they give advice on those things"*. This gives some indication of not only the broad and specialised nature the knowledge required to effectively perform coaching work, but also the need for continual learning to stay abreast of current developments in a range of fields.

It should be noted at this point that when discussing the tasks they performed, there was some slippage regarding the term 'easy' and its strong association with the notion of enjoyment. During the interviews, attempts were made to seek clarification from participants regarding what was specifically meant by the use of these terms with respondents often indicating that what they originally identified as an easy task was in fact a task that others may have found difficult. The issue appeared to be that the

coaches found these potentially difficult tasks quite enjoyable and therefore reported that they were relatively easy to do. With this in mind, I will now describe some of the aspects of hands-on coaching that the coaches said they found easy: *"the actual relationships with the athletes and knowing what's appropriate in terms of how they train, and whatever. I think that's easy ... I suppose if you enjoy it, even though it may be hard, it seems easier"* (Charlie). Charlie's comments exemplify the nature of the slippage with the terms 'easy' and 'enjoyable'. On the other hand, coaches and administrators also acknowledged that the task itself can be inherently complex and difficult: *"dealing with athletes on an everyday basis and catering for their individual needs* [is a difficult task] *because every athlete is different"* (Alan).

In summary, coaches and administrators indicated that hands-on coaching was an important task that QAS coaches performed. While these hands-on tasks were said to be generally enjoyed by the coaches, they were acknowledged as being challenging and inherently dynamic, drawing on a variety of disciplines.

Pastoral Care

Pastoral care was an aspect of coaching work that coaches and administrators identified as important in the work of QAS coaches. While this is not surprising given that the coaches want their athletes to perform well, in some cases the care extended to an almost pseudo-parent role as indicated by these comments from one of the coaches:

> *you're trying to um, be another parent to a lot of these kids ... the family put some of that responsibility onto you to try and encourage their kid to get something out of the sport but also to develop some life skills out of it as well.* (Carl)

This is a sizeable responsibility for QAS coaches to assume especially given that the majority of coaches already had significant family responsibilities. This interest in the broader personal development of the athletes under the care of the coach is not a new phenomenon. Côté and Salmela (1996) cited 'helping gymnasts with personal concerns' as an organisational task identified by high performance gymnastics coaches. This involved helping their athletes to deal with personal concerns like relationships with their families, personal and social lives, education, and eventually retirement from the sport. One coach noted financial issues as an aspect that was also of concern (Côté & Salmela, 1996). Similarly, Clarke's comment shows that his concern for his athletes stretched well beyond the boundary of the immediate sporting context: *"I'll help get them jobs that will support their athletic career"*. This task might be considered to be an extension of Lyle's (2002) constraints management role descriptor in which attempts are made to manage situational factors to the benefit of the athlete and/or the coaching process. By finding 'appropriate' work for his athlete, it might be assumed that Clarke is attempting to manage situational factors that might impinge on either his ability to deliver an effective program, the athlete's ability to achieve desired goals or both. If his athlete has employment that is sufficient to meet their financial requirements and also accommodates the multitude of sporting requirements (e.g., attending sessions and competitions, limited physical exertion involved in work to facilitate rest periods), the athlete and program in general will be better placed to achieve the desired goals.

Assistance provided by the QAS coaches also included the care and rehabilitation of injured athletes. This was a task which one QAS coach acknowledged as being extremely challenging because of the personal and emotional involvement required during this often difficult period: *"my athlete had a huge accident ... and when*

I saw [the athlete] *in hospital I found that really hard … you kind of wonder if it is worth it. That was very upsetting"* (Calvin).

In summary, coaches and administrators agreed that current QAS coaches acted in ways that demonstrated care for their athletes in much broader settings than the competition and training arena. While not unexpected, the scope of this care was surprising in its reach with cited examples ranging from finding athletes suitable employment, to assuming a parenting role. The inherent complexity and emotion involved in the multitude of interactions has the potential to make this task quite demanding. The fact that there may also be somewhat limited resources at the disposal of the coaches could compound this. A small number of coaches referred to the network of medical professionals that they were able to call on in assisting their athletes to recover from injury but their access to these people would almost certainly be determined by the tiering and subsequent funding available for their program.

Indirect Task Behaviours

In MacLean and Chelladurai's (1995) study they quite narrowly define this dimension as referring to *"activities such as recruiting, scouting and applying statistics that contribute indirectly to the success of the program"* (p. 199). As alluded to in the introduction to the previous dimension, I am proposing a wider conceptualization of indirect task behaviours. Given the edict of activities that *"contribute indirectly to the success of the program"* (p. 199) it is not too much of a stretch to include the pre-existing talent identification element but also broaden the focus to include management of the program and support staff, research involvement, and programming. Firstly, I will discuss programming as described by the QAS coaches and administrators. Next, the management of the program and a team of support staff will be outlined, followed

by a consideration of the talent identification and selection portion of the QAS coaches' work.

Programming

The preparation of short, medium and long term plans was a task that QAS coaches and administrators identified during the interviews. According to the participants, programming entails the design of operational plans for submission to the QAS, annual training and competition plans, and the periodisation of macro and micro cycles of training and competition. As might be interpreted from these comments, programming is something which may also have some overlap with the administrative maintenance behaviours dimension. Indeed QAS coaches are required to submit some planning documents to QAS administrators as part of their work, but the majority of the planning might be better conceived as contributing to the success (or otherwise) of the program (rather than being viewed simply as a reporting mechanism).

The importance of planning was strongly emphasised by coaches and administrators as evidenced by Charlie's comment *"good planning of the training they do, a systematic program that links in well with the national plan and ensuring that happens, is probably the fundamental thing that success rides on"*. An administrator echoed this sentiment by saying *"any type of planning is the initial crucial point of any process for an effective program delivery ... I believe planning is the most crucial part*" (Ashley). There was total agreement and a similar strength of conviction in each interview about the importance of planning and programming. This was in keeping with the research that suggests that the ability to plan and set goals are skills necessary for success in high performance coaching (Hurley, 2000). In Côté and Salmela's (1996)

study of high performance gymnastics coaches, they found that planning was the most pervasive category of knowledge in the organisation component.

Coaches and administrators were somewhat mixed in their reporting of the relative difficulty of programming. Calvin noted that his previous educational and athletic experiences had had a positive impact on his ability to plan and program: *"I find developing the programs pretty easy … because of my background in sports science and my own sort of experiences as an athlete"* (Calvin). In slight contrast to this, Carl indicated that although it is a challenge he relishes, the task of programming is quite difficult: *"whether you're dealing with 16 year olds in one discipline or 25 year olds in another, and the different workloads and how to periodise all of that … that's a big challenge"* (Carl). From the perspective of administrators, there was acknowledgement of the difficulty of the task with Alastair stating *"preparation and ensuring that the planning is there … those are probably the more difficult things"* (Alastair). My suspicion is that although the task of programming is quite complex due to its multifaceted nature, it is a challenge that they accept as part of their job and it is one which they are well equipped to carry out. Their previous experiences and interests would have allowed them to develop expertise in this area. Programming is a task which they would have engaged in over a long period of time prior to becoming a QAS coach and although it may have been difficult when they began coaching, it was task which they could perform with confidence when employed in the QAS setting.

Managing a Program / Squad

While the term 'management' was used by Craig to describe one of the broad categories of tasks he performed in his coaching work, management in this dimension specifically refers to the task of managing a program or squad and managing a group of

support staff. To more accurately portray the comments of the coaches and administrators these two areas will be dealt with separately with this section addressing the program and athlete perspective and the subsequent section discussing the management of support staff.

According to the QAS coaches and administrators, the management of the program or squad is a task that the QAS coaches perform. While this may appear to be an obvious statement there was some variation between coach and administrator expectations regarding this task. The difficulty of the task was highlighted by an administrator *"overall management is probably challenging to many* [coaches]*"* (Aidan). This was an aspect on which the two groups agreed. There were some differences noted between QAS administrators and newly employed coaches at the QAS. One administrator suggested a reason as to why the coaches may have found it difficult, especially when first employed by the QAS: *"*[the] *main concerns would be, once they first came into the place, they would say, oh God, I didn't know it was all of those things"* (Ashley). This gives some indication that coaches coming in may have thought that it was largely direct task behaviours, whereas the work involves a much broader set of expectations. Indeed, the management of a QAS program comprises a range of facets as indicated by one of the coach's comment that it involves *"management of everything associated with what they do as athletes, the competitions, the trips, working with QAS staff, you know? Booking accommodation, travelling to and from* [venues]*, moving the equipment that they've got. On and on it goes"* (Charlie). Even this account failed to mention many of the administrative maintenance behaviours that are involved in managing a program and squad of athletes (e.g., completing budgets).

Given the broad nature of the requirements of this aspect, it is not entirely surprising that coaches and administrators agreed that it was a difficult task, particularly for beginning coaches who generally lack experience with this aspect of QAS coaches' work. In addition to the wide ranging requirement of the task, the complexity of personal interactions increased the perceived difficulty of this aspect. Craig made this clear in the following comment: *"management of the athletes and coaches* [is the most difficult task] *just because you are dealing with personalities, egos, um conflict resolution ... Managing athletes to maximise their performance isn't easy"*.

QAS coaches are required to manage a program and squad of athletes in their work. This broad task requires coaches to have a variety of organisational and people-management skills to function effectively (Hurley, 2000). It seems that although the QAS administrators expect coaches to perform all of these functions, many of the coaches are not well prepared for this aspect when they first enter the QAS.

Managing Support Staff

"The coach can't be expected to have all the specialist knowledge" (Alastair). In this statement, Alastair is indicating that while there are certain expectations of coaches regarding their ability to impart sport-specific knowledge and to lead and organise the program, it is entirely appropriate and necessary to draw on the experiences and expertise of other professionals. Clarke also noted that by accessing others, the overall strength of the program could be improved:

> *while I manage the whole program, the program is far better off if I can pull in experts here, here and here in their own field ... whether it be a doctor, physio, strength and conditioning coach or whatever.*

This situation has been the case for a number of years in the Australian high performance coaching settings where coaches are required to coordinate input from para-professionals such as assistant coaches, conditioning coaches, specialist coaches, sport scientists, psychologists, nutritionists, sport medicine practitioners, masseurs, video technicians, and the like (Woodman, 1993).

It should be noted though, that because of the nature of program tiering at the QAS, not all programs, and therefore coaches, have the same access to funding and support services. The coaches of smaller, development programs had limited access to other professionals such as sport psychologists, medical professionals, strength and conditioning staff and sport scientists. This will obviously have an impact on how applicable the task of managing a team of support staff is to the specific coach.

For those who are able to access these other contributors, there is a need to manage this team. Alastair said, *"you have to have a multi-disciplinary approach. And the coach needs to sit at the top of that"*. The coaches acknowledged that how they managed that team was an issue that needed thorough consideration: *"my ability to pull that team* [of support staff] *together is very, very important"* (Clarke). That certainly doesn't mean that the absolute delegation of responsibility by coaches was the aim, in fact the opposite was true: *"we have support services but I don't feel that coaches can abdicate their responsibility"* (Alastair). Rather, the notion of an interdependent team, moving forward together was what was supported by Alastair.

Alastair also gave an indication that he wanted coaches to not only use service providers as simply another information source but to see them as a stimulus for moving in new directions *"*[the coach] *has to ask questions of the service providers and put them under the gun as well. And some coaches probably don't have the capacity to do that"* (Alastair). This suggests that individual agency, in this case the ability to ask

significant questions, is of great relevance to what will be learnt from interactions with relevant support staff.

To summarise, it is clear that depending on their access to support staff, QAS coaches are required to manage a team of contributors. This was seen by both coaches and administrators to have the potential to improve the performance of the athletes involved and also to stimulate the generation of new ways of doing things. One of the administrators made it clear that the involvement of these other experts was not intended to remove the coach from that aspect of the program but to provide more information and perhaps a different perspective.

Research Involvement

All 24 of the QAS coaches were involved as participants in one or more aspects of this study. As a result it is safe to say that being involved in research is a task that coaches engage in. This was, however, an aspect of QAS coaching work that was difficult to categorise. While the coaches (hopefully) gain something from being involved in empirical research studies, it is possible that the greatest benefits may simply arise as a result of *being seen* to have been involved. In this way, the category of research involvement may also be placed within the public relations behaviours dimension. I have chosen to assume a more positive position based on some comments regarding the usefulness of being involved in this current study.

While there are benefits to being involved in various research projects, it was a feeling of disappointment that came through in Clarke's comments:

> *I've been on a lot of things* [research projects] *here, you know things from Universities. You never get the appropriate feedback. People get their information and say 'well I've got that and I've got my degree' and*

whatever it is they are working towards and they've pissed off and you never get feedback. So I try and make an effort now to say 'look I want feedback on that'. (Clarke)

From these comments it can be assumed that the benefit to be gained from involvement is new knowledge and feedback on current practice. Perhaps, as indicated in his comments below regarding his involvement in this study, it is also time and motivation to reflect on his own practice:

I know at the end of it I will get something out of it because it will force me to think about things in a different manner. It will force me to confront thoughts and provoke questions in my own head which is good. (Clarke)

From these comments it might be assumed that coaches become involved in research projects for a number of reasons. First, there is the hope that it will provide them with the competitive edge either through the development of new technologies, equipment, or ways of doing things. A secondary outcome, which may or may not have been a factor, was any positive outcomes that came from being seen to be involved with research generated by the Centre of Excellence of Applied Sport Science Research, a body which was formed at the recommendation of the Executive Director and the Board of the QAS.

Talent Identification and Selection

The identification and selection of talented athletes was the major component of MacLean and Chelladurai's (1995) indirect task behaviours dimension, although given the North American context, words such as recruitment and scouting were used. Talent identification and selection were reported as tasks of the QAS coaches. One coach

indicated that it was the starting point for the entire program by saying, *"first of all, find the right athletes"* (Chris). The importance of having the right athletes to begin with was also noted by a number of administrators. Given that the achievement of significant performance results is central to the work of QAS coaches, it stands to reason that selecting athletes who will be best able to achieve those results is an important task.

It was stated by Clarke that talent identification is a difficult task for QAS coaches to perform because of the inherent uncertainty of future performance: *"*[talent identification] *is also a bit like gambling as well you know, you've got say 'is that going to be the right choice?'"*. The fact that coaches and administrators are unable to evaluate whether selections were right, except retrospectively, adds to this difficulty. It is also entirely possible that despite their extensive knowledge about, and experiences in the sport they are currently coaching, that QAS coaches do not know what to look for when selecting athletes into their programs. While this may seem to be a somewhat disparaging remark directed at the coaches, it is apparent that not even empirical research in the area of talent selection has been able to determine the most important characteristics. While it is not reasonable to provide a full account of the myriad of debates around the notion of talent, it may be worthwhile to characterise the cloudy nature of the research on talent identification.

The broad, and most agreed upon position seems to be that identifying various aspects of 'talent' is at the very least problematic (Abernethy, Côté, & Baker, 2002; Brown, 2001). One reason for this is there is limited, and in some cases, no evidence that certain athlete characteristics are a function of talent rather than a function of environmental factors (for example, practice) (Abernethy et al., 2002; Ericsson & Charness, 1994; Ericsson & Lehmann, 1996). In short, there are too many confounding

variables so that even if certain athletes posses a combination of genes that favours long range talent, they can be expressed in different ways depending on environmental and situational opportunities (Brown, 2001). Variables like motivation, coachability and opportunity can not be predicted (Brown, 2001).

It is for these reasons that some of the difficulty experienced by QAS when performing this reportedly crucial function may in fact be because of the inherent impossibility of definitive reasoning on which to base decision-making upon. Instead, they are left to develop their own processes and philosophies regarding this practice based on previous experiences and anecdotal accounts and without empirical support or direction. So in short, this is an extremely difficult task and coaches may be ill-equipped to carry it out effectively. To add to the problematic nature of the situation, the selection of talented athletes is paramount to the success of the program and plays an important role regarding evaluations of coaching performance.

At the other end of the spectrum is the de-selection of athletes and this is certainly something that coaches and administrators identified as a difficult task that QAS coaches are required to perform. It was said to be difficult because of the potential for confrontation but also because of the personal investment in the athletes as indicated by Ashley's comments:

> *the most difficult thing that coaches of all levels face is the hard type of selection issues … Particularly when it's with athletes that have given you their heart and soul and have given you everything that they can … It's difficult because you know that that decision could be the end of that person's whole, and I'll say career, but it mightn't be a monetary based career, it might be just something that that athlete just loves doing.*
>
> (Ashley)

In summary, talent identification, selection and de-selection of athletes are tasks that the coaches and administrators identified as being part of the work of QAS coaches. The importance of selecting the right athletes is paramount to the program's success but it might be suggested that coaches do not have adequate support to facilitate that important decision making. Selection for athletes can be a very positive occurrence but de-selection can be extremely difficult for both athlete and coach. In the case of the athlete, this disappointment is severe because either they have been indefinitely injured or because the coach has decided that they were not good enough to continue in the program. With respect to the coach, the issue is that often they have worked very closely with the athlete, developing a strong rapport and personal connection therefore de-selection can be personally and professionally difficult.

Administrative Maintenance Behaviours

This dimension refers to coaches' *"adherence to policies, procedures, and budget guidelines, and interpersonal relations with supervisors and peers that strengthen the administration of the whole enterprise"* (p. 199) (MacLean & Chelladurai, 1995). In MacLean and Chelladurai's (1995) study this dimension referred to items such as adhering to a budget, being on time with paper work, and adhering to rules and regulations. Similarly, the QAS coaches and administrators identified tasks related to budgeting, paper work, and reporting requirements that coaches where expected to fulfil. Given the governmental and subsequently bureaucratic nature of some QAS operations, this dimension is a particular strength of this model as other models often marginalise or ignore this aspect of coaching work.

One item that did not come through strongly in the QAS study, which was present in this dimension, was working relationships with peer coaches. One might

assume that the reason this featured strongly in the model was that the study was conducted using intercollegiate coaches who are often part of large coaching staffs. The QAS does not operate in this way and very few programs have designated assistant coaches. Having said that, there are often 'QAS network coaches' or 'QAS regional coaches' who generally work in conjunction with the program head coach. While the coaches and administrators cited peer coaches as a source of their learning, and that program coordination was part of their work, they did not make specific reference to the relationships with peer coaches. In terms of their work, the participants tended to emphasise the interactions they had with subordinate coaches throughout the state. This will be discussed with respect to the final dimension of 'public relations behaviours'.

Administration

This is a core item regarding this dimension and it was found to be a major task of QAS coaches. The term 'administration' as used by QAS coaches and administrators required further scrutiny and was found to include things like budgeting, reporting, and generic paperwork tasks. All coaches and administrators identified managing a budget as a major task of QAS coaches. Chris gave some insight into this task by stating, *"you have to be the accountant I guess ... Firstly put together the budget, structure it the way you think it is most effective and try to adhere to it especially with the cash flow"* (Chris).

The coaches' feelings towards the budgeting requirements, and to a certain extent, the rest of the administrative tasks were not particularly positive, nor were they approached with much enthusiasm. Charlie commented that *"financial management is something I don't love doing but it is something you have to do"*. There appeared to be some resentment of the task simply because it took them away from what they enjoyed

doing more, or felt was most important (direct contact with athletes). They did, however, seem to accept the task as a necessary component in the overall functioning of the program while acknowledging that it had a limited direct impact on the performance of the athletes. This was demonstrated by Chris' comment: *"you could say that the budgetary stuff and a lot of the reporting is not as important to the actual program but it is, because without that the program wouldn't continue"* (Chris). Administrators held similar views as demonstrated by Alan's comment: *"the accounts and filling in the various forms I would put as a low priority, but it still needs to be done"*.

In terms of the difficulty of the budgeting, two administrators mentioned that they did not consider it to be difficult at all with Ashley saying, *"Mum at home doing the house keeping, books and stuff. That's about as great as what the accounting system is"*, and Aaron explaining, *"I don't think the admin is that hard. I really don't"*. The coaches too, generally acknowledged that the accounting was not particularly difficult but one suggested that some difficulty arose because of his unfamiliarity with the procedures: *"not that it was particularly hard* [completing the budgetary requirements]*, just getting used to a different way of operating"* (Charlie). It seems clear from these comments that in general, the administrative tasks that QAS coaches are required to undertake are not particularly difficult but given that they must be completed in a mandated format and time, they may take a little bit of time to get used to.

But it was not the difficulty of the tasks which was identified by coaches as being problematic. From the interviews with the coaches, it appeared that while they understood the need for certain administrative procedures and requirements, a source of frustration was the duplication of procedures and an overall lack of efficiency in the system. Calvin commented on this by saying *"some of the administrational things are*

superfluous". Carl lamented *"it just seems to be endless amounts of paperwork"*. This view was voiced by many of the coaches. The administrators however, appeared to view the process of streamlining of procedures as one of the tasks they were responsible for. Alastair made this point by saying,

> [my task as an administrator is] *To try and streamline things as much as possible given that we work in a government environment um so the coaches can actually get on with the job ... we are pretty streamlined because I've tried to centralise almost everything with business services.*

One administrator made this concession though: *"I sometimes feel for the coaches. You don't want them to get bogged down in that part* [paperwork etc.]*"* (Aidan). So it seems that although a number of administrators felt that their task was to provide centralised and streamlined administrative procedures, the coaches still felt that needless repetition and duplication remained inherent in the operating procedures.

In addition to the perceived duplication and redundancy in the system there were also some frustrations over some governmental procedures. The general attitude of the QAS coaches is summarised by the following comment from Clarke's interview: *"I can understand that to a certain extent ... the governmental bureaucracy ... but it doesn't mean that I agree with it or that I like it"*. An example of why it was frustrating was provided by Charlie when he said, *"the need to get the ok to buy a roll of electrical tape ... or things that seem to me to be particularly trivial* [is frustrating] *and* [in my previous work] *I was used to 'if you need it you did it'"*.

Frustration with some governmental procedures was a strong theme throughout the interview section on coaching tasks and this led to the creation of a meaning unit category titled 'accountability'. This term referred to administrator descriptions of the measures in place regarding budgets and reporting that coaches regularly identified as

being frustrating. It became obvious that the administrators were aware that the coaches were not entirely happy with the range of procedures, but the administrators maintained that all procedures were necessary. Administrators made statements intended to directly counter the comments (imagined or otherwise) of coaches regarding the excessive reporting and budgeting measures. Aidan relates the source of funds to accountability measures by saying *"it is public funds that we are giving to them to manage so that accountability becomes quite important"*. Ashley acknowledged that accountability measures at the QAS are greater than other academies or institutes when he said *"we have stronger restraints on us here in Queensland than some of the other SISASs do ... A lot of them* [checks and balances in government] *came in with the Fitzgerald Inquiry and that's a reality"* (see Appendix F for further detail). Finally, Alastair summarised the attitude of the QAS administrators when he made the following statements: *"don't mistake accountability for bureaucracy"* and *"I think that the accountability is good ... there are always going to be checks and balances"*.

In response to these somewhat frustrating procedures, some coaches demonstrated unconventional strategies that bore some similarity to the athlete strategies described by d'Arripe-Longueville, Fournier and Dubois (1998). The Judo athletes in their study acknowledged that their coaches' authoritative style was potentially effective although it was not appreciated by the athletes. In much the same way, the QAS coaches acknowledged that many administrative duties were necessary but not appreciated. The athletes in the d'Arripe-Longueville et al. (1998) study employed unconventional strategies because the system that they were obliged to adhere to was at the same time, incompatible with their needs for self-determination. Some QAS coaches made comments that reflected the somewhat contradictory situation in which they found themselves. Clarke indicated his resistance when he said, *"I'm not*

saying I've found short cuts but my reporting is done the way I want to do it and it's within the realms of what they want".

Strongly associated with this notion of financial accountability is the idea of reporting. Similar to their attitude to budgets, the coaches acknowledged the need to provide written reports to the QAS Sport Programs Managers and while they identified some potential benefits of the various reporting measures, they generally saw it as a chore that had little direct impact on their coaching performance. Charlie provided a good insight into this when he said,

> *some of the reporting that is required, um, which I suppose just demonstrates that I am doing the job properly is often a chore. You'd think if I was doing this properly it would be nice not to have to spend the time demonstrating that I have done my job properly. I can understand why it's needed, but … that is time that I could have been using doing other things to help the program more.*

Again, the coaches suggested that the task itself was not particularly difficult and similarly for the administrators, they were aware that the coaches disliked aspects of reporting but believed that the processes were necessary. Ashley remarked *"one thing that coaches need to be aware of is that management at whatever level, we don't ask for things* [reporting etc.] *to be done for the fun of it"*. A reason suggested regarding why coaches resented some reporting was given by Ashley when he said, *"*[coaches] *want to accept accountability to their athletes and they want to accept accountability for results but they don't really want to accept that accountability comes with a partnership of reporting to someone else on a regular basis".*

Despite this difference in opinion about the efficiency and value of various QAS procedures, there was agreement that *"with more efficient functioning* [at the QAS] *you*

get to spend more time directed towards athletes" (Carl). Based on this premise, (that the less time spent on administrative tasks, the more time coaches can engage directly with athletes) one coach and one administrator indicated the potential for coaches to be relieved of these administrative duties. Craig said, *"admin to me, as I say, anyone could probably do it. It is signing papers and doing a few reports ... I think anyone could do the paperwork stuff"*. Making this point more strongly was Andrew, who said,

> *All the sorts of tasks that could be completed by others under the direction of the coach* [are less important tasks] ... [less important tasks] *don't require conceptualisation, they don't require any higher thinking components ... if you're not doing all of that administrative stuff, you can get on with your real work, your priority tasks.*

While other institutes have adopted the practice of administrative intervention by those other than the coach, the QAS would not, with one administrator saying, *"whereas some institutes have moved away from that, where they take over the whole financial management of the squad and everything like that, I think that is abdicating some responsibility ... so we won't be doing that ((laughs))"* (Alastair). This shows a clear difference in philosophy between the QAS and other AIAs.

In summary, the completion of administration activities such as budgeting, reporting and generic paperwork tasks was regarded by QAS coaches and administrators as a task that the coaches currently performed. The coaches and administrators were somewhat in agreement about the relative importance of these tasks with both parties acknowledging that they had limited direct impact on coaching performance. The administrators however, were far more powerful in their comments regarding the importance of accountability measures and although two participants suggested that certain aspects could be completed by persons other than the coach, it

appears unlikely that this will happen. Overall, the tasks were not deemed to be difficult, but coaches appeared to view them as a necessary activity that detracted from other, more important, or more enjoyable aspects of their coaching work.

Public Relations Behaviours

The description of this dimension by MacLean and Chelladurai (1995) makes reference to *"liaison activities between one's program and relevant community and peer groups"* (p. 199). The subsequently discussed items include things such as establishing working relationships with parents, involvement with professional associations and meeting with high school coaches. I have attempted to apply the perceived intention of those items to the QAS setting. In doing this I have included a number of the inductive categories including liaising with stakeholders, representing the QAS, and sharing with other coaches.

Liaising With Stakeholders

There are a number of stakeholders in the QAS setting. National sporting organisations (NSO), state sporting organisations (SSO), QAS administrators, governmental officials, media, and parents and families of athletes, all of whom have an interest in how programs are run and the work of coaches in general. Administrator Aaron makes this point well:

> *In sport, you don't have one boss. In our case there is the national body, the state body and the academy of sport but also the approval comes from their athletes, the parents, from their partner, there is a whole range of people who they* [coaches] *are seeking the thumbs up from.* (Aaron)

Another administrator stated that this was in fact, the most difficult task that coaches performed: *"the actual co-ordination of the complete group of stakeholders that support athletic endeavour* [is the most difficult task]*"* (Andrew).

Successfully interacting with the variety of people who have an interest in the work of coaches has been acknowledged as a very difficult task (Hurley, 2000). The impact of this interest on the coaches' work manifests itself in a variety of work practices. Coaches are required to attend QAS meetings regularly. These meetings may be relatively informal and be held with the Sport Programs Managers or Executive Director at irregular intervals, or may be more formalised, held at fixed time periods, and involve a range of stakeholders within and outside of the QAS. Similar to some of the paperwork, the coaches tended to acknowledge that there was a legitimate reason for attending meetings but they felt that it did not directly impact on the performance of the program and were therefore often reluctant to be involved: *"attending meetings. Um, I think it is important to be informed but obviously it doesn't have a huge impact on the coaching"* (Calvin).

One example of a more formal event is the Joint Management Committee (JMC) meeting which is held annually and serves as a review process for the programs. Given that these meetings are an annual requirement of the QAS and that there are senior representatives from each of the financing bodies, most often the Executive Director, Sport Programs Manager(s), and CEOs from the national and/or state sporting organisations, this can be a daunting environment. Charlie captured this feeling by saying,

> *I walked into the first one of those* [JMC meetings] *not knowing what to expect and having had no background given to me at all of what to*

expect, right down to the point that I wasn't aware until I walked in that I was pretty much chairing the meeting.

A salient point here is that the task was made more difficult or daunting because of a lack of preparation or prior experience. Charlie also made mention of the even greater difficulty those from a non-English speaking background may experience: *"I imagine that* [JMC meetings] *would be particularly tough for the coaches that come from other countries and might not have a good grasp of the language and it's pretty daunting"*.

An extension of the JMC meeting is the need for coaches to liaise with the NSO or the SSO regularly: *"*[coaches] *have to have a lot of relationships as well, with the national coaches, national associations, state sporting organisations"* (Aidan). It was suggested that this task is important so that the QAS, state and national programs are aligned: *"*[coaches need to] *communicate with the state body and with the national high performance areas so that the technical direction is on the same path to the national program"* (Alan). Alan went on to acknowledge that this is not an easy task: *"the other difficult one is maintaining a healthy relationship with the state sporting organisation. That is very time consuming and mentally draining"*.

Beyond just understanding the direction of the national and state sporting organisation and keeping them informed of the QAS program, Alan suggests that there is a need for QAS coaches to have a greater involvement in the strategic direction of the sport. Alan said *"*[the QAS coach should be] *instrumental in guiding the future direction of the state sporting organisation and their development pathways"*. One of the coaches indicated that that was something that he had intentionally tried to do when he said, *"I've made a deliberate attempt to be more involved with the state federation to try and help steer some of those things as well"* (Carl).

Obviously parents and the families of the athletes have significant investment in the various by-products of coaching and are therefore legitimate stakeholders in this domain. Chris in particular, had strong views about the importance of parental involvement:

> *the key thing that contributes, the reason that I am able to keep the program effective, I guess the difference between me and a bunch of other coaches out there is going to be the ability to communicate effectively with parents.*

Later in the interview he reinforced this point by saying *"what I think is crucial, is you have to get the parents on side and that sometimes does require a lot of accommodation"*. This is in keeping with Côté and Salmela's (1996) research with high performance gymnastics coaches, who identified working with parents as an organisational task. More anecdotally, a number of coaches had made the remark that 'the best athlete is an orphan'. While rather crude and intended as a joke, it does give some insight into the problems that some parents can pose and also the stress and time that is spent dealing with parents of athletes.

In summary, QAS coaches are required to liaise with a range of stakeholders including QAS administrators, NSOs, SSOs, as well as parents and families of athletes. Given that each of these parties has a vested interest in the work that the coaches perform, keeping each of them informed as to athlete and program focus and progress was considered to be of great importance. In the case of the QAS, it is often the shear number of the reporting relationships that made this task difficult to efficiently manage, particularly for new coaches or those from non-English speaking backgrounds.

Representing the QAS

This is the category which resonates most with the dimension as described by MacLean and Chelladurai (1995). It refers to the positioning, intentionally or otherwise, of the QAS coaches as the public face of the organisation. Being the peak elite multi-sport organisation in the state, the QAS has attained reasonable profile. While the athletes are the most obvious representatives of the organisation, the coaches are also a part of this. In this respect it is similar to many other professional coaching situations where coaches are recognised as representatives of the organisation and are required to assist in marketing their athletes, their sport and themselves through a variety of public relations and media events (Hurley, 2000). The QAS also has strict uniform policies for the athletes who are supported and the coaches are also given some direction to wear the corporate attire. This means that QAS coaches are generally identifiable at all training and competitions they attend.

Alan suggested that the marketing and promotion of the QAS by coaches was an easy task that they performed: *"marketing the QAS and having a presence in the sporting community* [is an easy task]. *That is an easy role because just you being there, people will talk about you"*. This comment may be seen as an indication of the potential pressure that the coaches may feel as a result of simply being a QAS coach. The fact that the coaches are recognisable as an elite coach in their sport, brings with it some expectations of conduct, and possibly more importantly, success. Another interesting aspect is that Alan acknowledged that there is little (if any) direction from the QAS regarding how to perform this task when he said, *"is sort of just let go as, 'well, they will be able to do it'. It is something that you are not educated in"*.

In summary, while the QAS was not a sponsorship or marketing driven organisation during this study, there were certain expectations from the administrators

in terms of the 'branding' of their athletes and coaches. With this, the coaches become more identifiable with potentially greater expectations and pressure placed upon them.

Sharing With Other Coaches

This task refers mainly to the dissemination of coaching information or knowledge to coaches generally coaching at a lower hierarchical level than the QAS coaches. The inclusion of an item referring to 'meeting with high school coaches' in the MacLean and Chelladurai (1995) study is what led to the inclusion of this QAS coaching task in this dimension. The notion of meeting with high school coaches conjures images of a head coach meeting with potential 'feeder' coaches and aspiring elite coaches, disseminating information, or providing answers to their questions. In this way it is very different to conversations with peer coaches, which were identified as a source of learning by the QAS coaches.

In reference to meeting with subordinate coaches, and while it was not a specifically stated requirement of the position, an administrator noted that this was a task that the QAS coaches performed. Alan said *"*[the QAS coach will,] *in some ways be responsible for filtering of that technical information that is spread through the coach network"*. As an aside, it is interesting that Alan mentioned only technical information as a point of sharing, giving some insight into the privileging of certain forms of knowledge or information. One coach disseminated information to a wide variety of interested parties:

> *for those that are remotely interested I do a weekly training program of what the guys will be doing, I send that out to anyone who wants to get it. I give out to about 150 people each week, coaches, athletes and whatever.* (Charlie)

Again, it can be seen that the kind of information shared is restricted to technical information about the programming of his athletes. That is certainly not to say that this information is not highly valued by those who receive it or that it is not worthwhile to disseminate these programs. Rather, it is simply interesting to note that this form of information is regularly disseminated while other forms are not.

Slightly removed from the direct technical emphasis, Carl said that he enjoyed sharing a somewhat different area of his coaching with others. Carl's sharing was seen to be more process-focused when he said,

> *the planning of programs … is a challenge that you sort of relish as part of your job. And* [with] *the other coaches in the state … I think that's where I enjoy sharing that sort of knowledge with them.*

Charlie also identified a different way in which he shared with subordinate coaches since being appointed as a QAS head coach when he said *"*[I share with other coaches in my sport by] *being a part of the seminars we have over various topics,* [as well as in] *conferences and taking more of a lead role in those sort of things"*. Chris noted that this task had been more accepted by the sporting community at large also: *"*[the QAS coach] *has become much more accepted as a conduit for the cutting edge particularly sport science, sports medicine type stuff"*.

But sharing with other coaches was certainly not without problems. The subtle nuances of personal interactions and the nature of the coaching culture in each sport sometimes created difficulties for the QAS coaches. Charlie emphasised this by saying *"*[a task I perform is] *ensuring that the network coaches feel that they're getting adequate support and that varies considerably depending on the personality. So you end up having to work pretty hard to just deal with the personalities"*. Craig was quite frank in his assessment of the source of the difficulty when he said *"my job is to*

develop a strong network of coaches … we have meetings and try and develop some knowledge sharing and they don't like that".

Although this task has been somewhat encouraged by at least one administrator, it could not be described as central to the mandated work of QAS coaches. The motivations for fulfilling this task may be assumed to be self serving or selfless. Firstly, it may be viewed as being ego building in that the QAS coaches may be seen to be coming from a position of knowledge, helping out those who are less skilled. Another self-serving perspective is that by aiding the current coaches of future QAS athletes, or at least indoctrinating them with the core philosophies of the QAS program, the athletes that the QAS coaches are presented with in the future may be of a higher quality allowing greater overall success. The other perspective is that the coaches have a more altruistic aims of building the sport and helping other coaches. The responses from the participants do not allow a clear understanding of their exact motivations but it is not too presumptuous to assume that their motivations will certainly influence the kinds of things that the QAS coaches will choose to share or reveal.

Additional Factors

Aside from the difficulties in fulfilling all of the requirements identified above, there were some additional factors identified by coaches that added to the complexity of the task they undertook. One area of complexity related to the basic nature of coaching. The other was to do with the nature of the sporting context in which they were coaching.

Nature of Coaching

A number of coaches acknowledged that the often ambiguous nature of coaching was a real challenge. Charlie made this point by saying *"one of the challenging things here is that there is no right or wrong in with the things that you do, you are always just considering"*. That uncertainty remained present in all coaching contexts regardless of the type of athlete or type of sport. Calvin made the point that performance improvement is also unpredictable and this was something that he had had to come to terms with:

> *coaching is the sort of thing where no one goes up in a linear progression, it is always two steps forward, one step back and there is always going to be little down spots that you can't explain but I think I have learnt to be positive about it.*

The vagaries of information and implementation, as well as the variability and unpredictability of performance were also cited as factors inherent in the work of coaches that often contributed to the overall complexity of the job.

Nature of the Sporting Context

The nature of the sporting context often served to increase the complexity of the work performed by QAS coaches. In particular, the make-up of the squad and the competition aspect of the sport contributed significantly. The most common scenario described by the coaches related to the complexity inherent in coaching a squad of athletes, most often in individual sports, that competed against each other. Another scenario related to the problems in managing the squad when a number of the athletes were personally coached by the QAS coach while other members are coached by QAS

network coaches. Charlie made this point by saying *"the most difficult thing is that we have a squad where I coach a certain number within the squad and I have several network coaches who work with the other athletes"* (Charlie). The reason given to explain this difficulty was *"*[it is a] *tough balancing act in the job … paying due attention to the athletes I coach myself as against my responsibility to the rest of the squad and the network coaches"* (Charlie). Managing different personalities of coaches and athletes is a task that QAS coaches found difficult and contributing to this complexity was the competitive nature of the sporting environment and the make-up of the squad.

Summary of QAS Coaches' Work

It has been proposed that coaching may be thought of as a highly complex endeavour in which a vast array of skills, information, knowledge, and even wisdom are brought to bear on a range of problems that can involve all aspects of the athlete's life (Woodman, 1993). It is generally agreed upon that coaching is not something that is merely delivered in episodes, but is a dynamic social activity that vigorously engages athlete and coach (Cassidy et al., 2004; Cushion et al., 2006; Jones et al., 2002). From the information provided above, it is clear that the work of the QAS coaches is far from being episodic in nature, with the interaction between the different task elements and the nature of sport in general resulting in a complex and contested workplace.

To advance the shift away from viewing coaching as discrete episodes, a great number of researchers have chosen to describe coaching as a process. In doing so, coaching has been characterised as the serial combination of training and competition elements that are inter-related and interdependent, and directed towards an identified set of goals (Cross & Lyle, 1999; Cushion et al., 2006; Lyle, 2002; Woodman, 1994).

While there is no doubt that to better understand coaches and coaching, there is a need to go well beyond a focus on coaching episodes, it might be suggested that in describing it as a process, there is some assumption of order, repeatability, and rationality, whereas in practice, coaching work may be resemble something quite different (Cushion et al., 2006; Lyle, 1990; Saury & Durand, 1998). While it has been possible through my research to identify the range of tasks that the QAS coaches are variously responsible for, it has been particularly difficult to identify any semblance of order or indeed the existence of a 'process'. It is for this reason that I have chosen to use the term 'coaching work' to describe what it is that QAS coaches do. This term is felt to be most appropriate in that the coaches are employed full-time by the QAS and the term might be better associated with the messy realities of high performance coaching. Work is associated with hardship, endeavour, success, failure, and also assumes the presence of power relationships and hierarchies between employers and employees and between workers (Watkins, 1991). While I am not formally contesting the use of the word 'process' to describe what it is that coaches engage in, given the aim of this research and the scope of this thesis, it is simply more appropriate to use the term 'work' to capture the minutiae of coaching activities involving both cognitive and behavioural actions.

Cushion and colleagues (2006) propose that coaching is continually constrained by a range of 'objectives' that derive from the club, the coach and the athletes involved. This appears to be particularly true in the context of the QAS where organisational goals and objectives direct the coaches' work. Another proposed feature is the dynamic set of intra- and inter-group relationships that are part of coaching work. It is also suggested that coaching is embedded within external constraints, only some of which are controllable. And finally, a pervasive cultural dimension infuses coaching through the

coach, club and athletes, and their interaction (Cushion et al., 2006). From the previously presented data, it is clear that these elements are present in the QAS environment.

The interaction of all of the elements of coaching work mean that coaching has been described as an infinitely complex endeavour that is more important, more influential, more difficult, more cognitive, more professional and more humane than it and its proponents are given credit for (Cushion, 2001; Kidman, 2001; Lyle, 2002). The QAS data supports the characterisation of coaches' work in this way. Part of the complexity inherent in coaching, relates to the fluid nature of the activity, comprising ongoing dilemmas and decision making, and requiring constant planning, monitoring, evaluation and reaction (Bowes & Jones, 2006). QAS coaches therefore function in a turbulent social world which will affect how they interact, what they attend to, and therefore what and how they learn.

Previous research has identified that the dynamic, intricate and ambiguous nature of the role and the fact that it is often dictated by the context means that coaches require considerable flexibility and critical thinking skills (Jones, 2005). The diversity of coaching components also requires individuals to assume a multitude of roles including the expansive technical know-how of a veteran performer, the pedagogic skills of a teacher, the counselling wisdom of a psychologist and the administrative leadership of a business executive (Cassidy et al., 2004; Côté, 2006; Fairs, 1987). For full-time coaches like the QAS participants, increased commitments bring increased expectations, pressures and demands.

Expert coaches are also expected at all times to display intuition, expertise, judgement, sensitivity, creativity and problem-solving abilities (Atkinson & Claxton, 2000). In addition to this, coaching practitioners are often held totally responsible for

the results of competitive activities that are predominantly spontaneous, unpredictable and highly visible (Potrac et al., 2000). So it can be seen that expectations of coaches and their knowledge are extremely high with full-time or contract employment bringing increased demands and pressure. Coaches do not often have the learning support or research base that often comes with similar positions of responsibility elsewhere in the working world. For example, physical education teachers are provided with and are often times explicitly required to participate in professional development programs identified as being important through the much larger research base in the field of physical education teacher education. It has also been suggested that coaches perform the same obligatory duties as managers in the business world with coaches making consequential decisions on a daily basis that will determine a program's current and future success (Leonard, 2005; Lyle, 2002). It should be noted however, that their work is often completed without the support or financial compensation often associated with the business world.

Coaching has been described as an art and as a science but Lyle (2002) suggests that it is exclusively neither but rather, a little of both. Woodman (1994) contends that sport performance is not an exact science and even with the advancements made in the fields of exercise physiology and the associated sport sciences, the individuality of the coach, the vagaries of the psychological aspects of human performance and the variety of interactions and relationships between the coach and athlete will significantly affect performance. The coaching domain encompasses virtually all aspects of the personal, professional, academic and sporting lives of those involved (Dickson, 2001b). When this information is considered, the complex role of the coach and the need for a holistic approach to the consideration of learning is highlighted. As can be seen from the descriptions of the QAS coaching tasks, their work might be characterised as dynamic,

organised, systematic, and deliberate (Woodman, 1993). Given the wide range of elements and the previously characterised complexity of their work, the ways in which coaches come to know is of great significance.

CHAPTER 3 LIFE HISTORIES AND SOURCES OF LEARNING

Having previously outlined the coaching domain and the work of the QAS coaches in some detail, an important aspect to discuss is in fact how these coaches learn to perform this work. In this chapter I will make reference to the sources of learning that QAS coaches accessed in coming to know how to perform their QAS work. I will also discuss the quantitative methodologies employed to examine the life histories of the QAS coaches and will begin to frame the discussion around the notion of relational interdependence (to be elaborated on significantly in the subsequent chapter). Many of the identified sources of coach development were accessed well before the coaches were employed by the QAS and a range of them were reportedly still making significant contributions to the learning of the coaches without any support from the QAS. While a central purpose of this research was to understand the contributions that the QAS was making to the learning of their coaches, I chose to include these more 'external' sources of learning for a number of reasons. First, my aim was to provide a holistic account of the experiences of these coaches that remained true to the conversations generated in the interviews. Second, Billett (e.g., 2001a, 2004b, 2006b) emphasises a consideration of the premediate experiences in understanding the learning that is currently occurring and what might occur in the future. As such, the previous learning experiences of the QAS will be quite important in directing the coaches' personal agency. For these reasons, a range of experiences will be presented in this chapter. It should be noted that while the bulk of the discussion of the theory of relational interdependence will take place in the next chapter, connections will be made throughout. Finally, because of the nature of this section, conclusions will be drawn from data collected in the face-to-face questionnaires and semi-structured interviews. Given that an account of the methods for the semi-structured interviews was presented in the previous chapter it will not be

duplicated here. It is however, necessary to provide details regarding the largely quantitative data collection methods involved in the face-to-face questionnaire.

Face-to-Face Questionnaire

Quantitative Data

While this project was interpretivist in nature, the face-to-face questionnaire involved the collection of quantitative data regarding the previous experiences of QAS coaches. One of the most commonly used research methods that has achieved much popularity even outside academic applications is the use of surveys (Gratton & Jones, 2004). This form of data collection has been used for a range of studies within sport settings to access such things as coaching behaviours, attitudes and needs (Côté, 1998). Surveys are a standardised set of questions designed to gain information from a subject (Gratton & Jones, 2004; Whitson, 1978). It has been proposed that it may be appropriate to use surveys to ask questions from the following categories: behaviour (e.g., how often have you attended professional development clinics since arriving at the QAS?); attitudes, beliefs and opinions (e.g., do you think your induction was helpful?); characteristics (e.g., what level of education have you received?); expectations (e.g., do you plan to speak with a coach in the next two months?); self-classification (e.g., do you consider yourself to be an active learner, regular learner or stagnant learner?); and knowledge (e.g., what is the name of the organisation controlling coaching accreditation in this country?) (Neuman, 2000).

Procedure

A specific category of surveys is face-to-face questionnaires. These are conducted with the researcher and the subject present at the same physical location with

the researcher personally asking the questions to the participant's face (Gratton & Jones, 2004). Face-to-face questionnaires provide the highest response rate and permit longer questionnaires (Gratton & Jones, 2004). Researchers can observe the surroundings and use nonverbal communication and visual aids as well as engage in extensive probing and clarification. This final point was critical given the variety of backgrounds and perspectives found in the QAS coaching group. The noted disadvantages of this method are the possibility of high financial costs and interviewer bias (Culver et al., 2003; Gratton & Jones, 2004; Neuman, 2000). Costs were not an issue for this project as support was provided by the QAS and The University of Queensland, which covered all photocopying, printing, and various purchasing costs incurred while conducting the project. To ensure maximal convenience and response-rate, and to facilitate continued rapport with the participants, the coaches were given almost limitless scope regarding where and when the face-to-face questionnaire could be completed (e.g., in a private room at the QAS facility, at the participant's home or in another off-site venue like a quiet café).

Regarding interviewer bias, as mentioned before, I took steps to acknowledge my own personal history and also my position as a researcher within the QAS. Prior to conducting the interviews and also prior to the analysis of the data, I discussed my personal history with my supervisors. Included in these regular discussions was my history as a student of Human Movement Studies, my background as a high school physical education teacher and also my more recent involvement as a coach of elite junior cyclists. As a result, interviewer bias was not removed but was acknowledged.

For this study, the identification of relationships, particularly to do with sporting, educational and employment backgrounds was important to gain an understanding of the premediate experiences of the coaches. Firstly, it was important to

collect this information so as to facilitate a better understanding of the entire cohort under investigation. Secondly, the responses and trends identified in the face-to-face questionnaire helped direct the design of the semi-structured interviews. The collection of this relatively non-threatening information helped me to establish a professional and personal rapport with these coaches, with a view to gaining more open and honest responses in the semi-structured interviews. Finally, having collected a range of information regarding each of the coaches, it was possible to identify potentially interesting coaches for inclusion in the semi-structured interviews. It should also be noted that while the face-to-face questionnaire was essentially cross-sectional in its design, the format and direction of questions required the coaches to provide information from throughout their careers as athletes and as coaches.

While keeping in mind the key principles for designing survey questions outlined by Neuman (2000), the questionnaire (see Appendix G) was developed to identify demographic information such as age, playing experience, coaching experience, education and coach development activities. The schedule was adapted from the coach interview schedule of Gilbert, Côté and Mallett (2006) and incorporated some items from a questionnaire used in a study by the National Board of Employment, Education and Training (1994). The Gilbert, Côté and Mallett (2006) interview protocol was based on the guidelines for conducting retrospective interviews as described by Côté, Ericsson and Law (2005) as well as on research on coaches' learning by Gilbert and Trudel (2001) and Trudel and Gilbert (2006). Finally, it was also based on research on the coaching process by Côté and colleagues (1995). As in the study by Gilbert and others (2006), the QAS face-to-face questionnaire collected quantitative data that can be compared between different coaching categorisations, as well as longitudinal data, gathered retrospectively, that allow the identification of important developmental

periods, and profiles of activities and behaviours that are verifiable and therefore can be validated.

The argument is that successful coaches can only be distinguished after the fact and as such, retrospective interviews with outstanding coaches is one of the only ways to solicit information on the development of high levels of coaching performance. The problem is that when reports require the recall of activities and events that happened decades ago, the accuracy of the reported information cannot be taken for granted (Côté, Ericsson, & Law, 2005). In these cases, participants rely on a small number of vivid experiences as well as their current feelings, attitudes and situations to extrapolate and generalise what they think they might have thought or experienced at earlier times (Côté et al., 2005). As a result, the questions used in this study as well as those by Côté and colleagues (2005) and Gilbert and colleagues (2006) were designed to minimise these problems. In particular, information on past coaching and athletic experience can nearly always be checked against the public record and there are independent methods of validation possible through accessing past coaches, athletes and employers (Côté et al., 2005). In addition to this, Côté and colleagues (2005) refer to a number of studies highlighting high test-retest reliability of past sporting activities. In summary, the face-to-face questionnaire in this study has therefore been designed to help coaches recall actual events and memories rather than inferences and reconstructions (Côté et al., 2005; Gilbert, Côté, & Mallett, 2006).

After the initial planning period, the face-to-face questionnaire was piloted a total of four times, with three former coaches and one current coach in mid-2005. The three former coaches had coached at a national level with state programs and the current coach was coaching at an international level. Feedback was recorded regarding participant interpretation of questions, time to complete the questionnaire, and interview

technique. As a result of these pilot trials, the schedule was slightly modified and then performed with the current QAS coaches. The final face-to-face questionnaire took an average of 71 minutes to complete with the longest spanning 112 minutes and the shortest completed in 49 minutes.

Participants

All QAS coaches were invited to participate in the face-to-face questionnaires. This might be viewed as a purposive sample (Neuman, 2000; Patton, 2002). In a purposive sample, the researcher gets all possible cases that fit particular criteria and in this instance, the criteria related to being a full-time employed QAS coach. It is an acceptable kind of sampling for special situations and is typically used in exploratory field work (Neuman, 2000). This research can certainly be considered to be both of these. While a number of other studies such as those by Gilbert and colleagues (2006), Irwin and colleagues (2004), and Hardin (1999) commendably gave specific criteria for the inclusion of coaches in their research, this was not a specific concern for my work. Given that the overall aim was to investigate the work of QAS coaches rather than to make claims regarding expertise or more generalisable claims about the origins of elite coaching knowledge, the only criteria for inclusion in this project was their designation as a QAS coach.

As in the discussion of the semi-structured interviews, I presented a broad overview of the proposed research in a team briefing (involving all QAS staff based in Brisbane). In the subsequent coaches' meeting (held immediately following the team briefing) I provided an information sheet (see Appendix D) to all coaches present and then individually provided absent coaches with the sheet at a later date. I then contacted all coaches to seek their involvement. Given that this was a priority area identified by

coaches in the review process prior to the establishment of the CoE, all 24 available coaches agreed to participate. A further factor that may have affected this high involvement is that the Executive Director of the QAS thoroughly endorsed this project publicly at a number of team briefings. As noted above, all participants were given the opportunity to select the location and time of the interviews. Given the work and travel commitments of QAS coaches, the questionnaires were conducted over a period of three months. In addition, two of the interviews were conducted in two parts because of time interruptions. One interview was conducted with an untrained interpreter at the request of the coach.

Ethical Considerations

As noted in the previous discussions of the methods used in this study, certain measures were taken to ensure that this research was ethical. An aspect that was heavily emphasised was the freedom to withdraw at any time without fear of reprisal. I conducted all of the face-to-face questionnaires and prior to the commencement of these I made it clear that as a researcher I had no influence whatsoever regarding their employment and how they were treated within the QAS. Each participant was referred to on all documents and files by a pseudonym to help facilitate anonymity. As noted in the previous chapter, because of the small number of female coaches at the QAS, any females selected for inclusion in the project would be readily identifiable even if female pseudonyms were assigned. For this reason, male pseudonyms were assigned to all coaches and administrators. The completed questionnaires were stored in a secure location and as previously mentioned, I was the only person who had direct access to these materials.

Data Analysis

The data from the face-to-face questionnaires were systematically reorganised and was then entered into an analysis program (Excel) and checked for accuracy of coding and entry in a process known as cleaning (Neuman, 2000). Descriptive statistics including functions such as sum, mean, median, and range were employed to examine the developmental pathways of high performance and developing high performance coaches. Data were further examined based on a variety of categorisations such as age (older coaches versus younger coaches), and type of sport (individual sport coaches versus team sport coaches).

Non-parametric tests were also employed. The Mann-Whitney U test was used to test the hypothesis that two independent samples come from populations with the same distribution (Coakes & Steed, 2003). This test was incorporated into some aspects of the analysis and it is equivalent to the independent groups t-test which is used to determine whether the difference between the means of two sets of scores is significant, based on the assumption of normality (Coakes & Steed, 2003). While there were no significant differences between the various categorisations of the population, a number of trends were found. These will be discussed in later sections.

The use of Quantitative and Qualitative Data

Given the contrast of data collection methods in used in this project, it is necessary to address some issues. Gratton and Jones (2004) comment that some academics have suggested that it is difficult, if not impossible to mix qualitative and quantitative approaches based on the contention that they are incompatible as they rely on differing epistemological assumptions. Detractors have also noted that time constraints may preclude mixing of approaches, not to mention the difficulty of

publishing such findings. On the other hand, many have argued that by mixing these approaches, the researcher can achieve a final product that enjoys the significant contributions of both (Gratton & Jones, 2004; Neuman, 2000). Wolcott (2002) suggests that placing the approaches in opposition does a great disservice by detracting from the contribution to be made by each, including what each can contribute to the other.

The opportunity for complementary usage is best understood when it is considered that most quantitative methods can be thought of as data condensers in that they condense data in order to see the big picture, while qualitative methods can be seen as data enhancers, as they make it possible to see key aspects of cases more clearly (Locke, 1989; Neuman, 2000). Qualitative data can be used to support quantitative research in terms of providing some explanation to quantitative measurements (Gratton & Jones, 2004). One approach may in fact facilitate the other with a piece of quantitative research identifying the existence of a particular occurrence that could then be explained through the collection of qualitative data (Gratton & Jones, 2004). That is precisely what the combination of quantitative and qualitative data collection techniques was intended to achieve in this project. It should be noted that the combination of quantitative and qualitative data techniques is relatively common in more current sport research (Culver et al., 2003). In particular, the combination of surveys and interviews comprised nearly 12% of the mixed method studies identified in the research by Culver and colleagues (2003). It has been stated that one's choice of research methods is necessarily linked to the questions one is interested in investigating (Macdonald et al., 2002; Whitson, 1978). The kinds of questions I was seeking answers to required the mixed methodology presented above and in the preceding chapter. In this chapter, the life histories of the coaches will be presented through the discussion of the experiences

that coaches and administrators identified as making contributions to how the QAS coaches came to know how to perform their coaching work.

Previous Sporting Experiences

Athletic involvement in the chosen sport is an aspect of experience that is automatically associated with the development of sport coaches. More specifically, previous experiences as an athlete and as a coach have been identified as important contributors to coaching development (Gilbert & Trudel, 1999). Emphasising this point was Ashley who said of the QAS coaches, *"I believe that* ... [learning to coach] *can only come from one place. They were involved in the sport at some time or other"*.

Experience as an Athlete

It has been widely recognised that with few exceptions, high performance coaches have competed in the sport that they currently coach (Gould, Giannini, Krane, & Hodge, 1990; Lynch & Mallett, 2006). Given its ubiquity, the contribution of athletic experience is a point of great interest with a great number of researchers identifying it as significant (e.g., Abraham, Collins & Martindale, 2006; Bloom, Durand-Bush, Schinke & Salmela, 1998; Côté, 2006; Cushion, Armour, & Jones, 2003; Irwin, Hanton, & Kerwin, 2004; Jones et al., 2003). There had previously been an unquestioned assumption that these experiences somehow gave former athletes the requisite skills to progress into the coaching ranks. More recently there has been critical discussion of the contributions that previous athletic experience makes to current coaching knowledge (American Sport Education Program, 1999; Dickson, 2001a; Gilbert et al., 2006; Gilbert, Niino, Wahl, & Conway, 2004; Way & O'Leary, 2006). While the understanding of these contributions is still emerging, it is clear that previous athletic

experience does contribute to current coaching knowledge in some way. In their study of elite men's artistic gymnastics coaches, Irwin and colleagues (2004) found that the coaches rated past experience as a performer as the third most important source of knowledge behind mentor coaches and trial and error. Similarly, and in keeping with the findings of Gilbert and colleagues (2006), the QAS coaches had many thousands of hours spent as athletes engaged in competition and training activities (Table 1).

Experience	Overall		Recreational		Developmental		Elite level	
	Mean (yrs)	SD (yrs)	**Mean (yrs)**	SD (yrs)	**Mean (yrs)**	SD (yrs)	**Mean (yrs)**	SD (yrs)
As an athlete (years playing)	**22.7**	11.9	**4.7**	7.7	**7.8**	5.7	**9.6**	6.9
As an athlete (ability level)	**7.9**	0.9	**7.7**	3.4	**8.1**	2.0	**7.9**	2.1
As a coach (years coaching)	**21.8**	7.9	**2.9**	5.2	**8.4**	6.6	**13.8**	9.1

Table 1. Experience as an athlete and as a coach at various sport levels

As players, the QAS coaches had an average of nearly 23 seasons (22.7 years) playing the sport that they are currently coaching. An interesting point is that the actual involvement of each coach in the sport they now coach ranged from 5 to 48 seasons. By any account, this is an enormous variation and even when this involvement is broken down further and categorised according to Lyle's (2002) categories of recreational, developmental, and elite level sport, the range remains large. Other authors have also noted the large ranges in the previous athletic experiences of current coaches, suggesting that there may be a minimum threshold of experience necessary for competence (Côté, 2006; Erickson, Côté, & Fraser-Thomas, 2007). For those QAS coaches who had not had great amounts of experiences (perhaps in comparison to other coaches in the QAS or within their respective sport) there was a sense of inadequacy that came through in their comments. Chris indicated that he was most uncertain about high level tactics because: *"I didn't play in the national league, I haven't played enough*

games myself at a high level". Countering this was the suggestion by another coach that previous success in one area, gave him the confidence in his abilities in a range of other areas. Referring to a previous area of perceived coaching weakness Calvin said, *"because of my … competitive background … I was confident that it wasn't going to take long to piece things together"*. While some trends are discussed below, the point to be made is that the pathways to being appointed as a QAS head coach are many and varied.

One aspect regarding athletic experience, which was in keeping with the research of Gilbert and colleagues (2006) and consistent with the results of Lynch and Mallett (2006), was the escalating trend regarding athletic involvement across the levels of competition (i.e., recreational level, developmental level and elite level). While it might be suggested that this trend may indicate the increased importance of experience at the elite level of coaching, prior to becoming a QAS coach, the large range present undermines this position significantly. What might be said is that perhaps as athletes, the current QAS coaches gain something from being involved as athletes in training and competition but it does not appear to be critical to being appointed as a QAS coach. Indeed from being athletically involved, QAS coaches may have gained an appreciation of athlete stress or decision making, or it may have given them the opportunity to observe the behaviours of their coach and others' in training and competition environments. The position might reasonably be taken that either these things can be gained through athletic participation at a variety of different sporting levels, through other means completely, or that they are not integral to coaching success. It should be conceded though, that there may be secondary factors related to performance that may facilitate coach development or at least progression into coaching.

Perceived Ability

The QAS coaches were most often starters in their chosen sports and rated themselves 7.9 out of 10 in terms of their perceived athletic ability. This pattern was consistent across recreational, developmental and elite sport contexts in which the coaches participated. The suggestion here is that in general, the QAS coaches thought of themselves as being better than average performers compared to the rest of their immediate peer group without being outstanding performers. Sport coaches in other studies have been reported to be better-than-average athletes in relation to their peers, but not necessarily outstanding performers (Erickson et al., 2007; Gilbert et al., 2006; Lynch & Mallett, 2006). The conclusion drawn from this has been that experience as an athlete might be useful but outstanding performance is not a pre-requisite for coaching (Erickson et al., 2007; Lynch & Mallett, 2006).

It has also been noted that previous success as an athlete is often ascribed great importance in the selection of individuals to coaching positions without empirical research to support the magnitude of its contributions (Gilbert, Niino, Wahl, Conway et al., 2004). Given the high level of perceived athletic ability of the coaches, perhaps this is also a factor in the initial employment of QAS coaches. Now though, it is being increasingly recognised that having been an elite player does not necessarily ensure success as a coach (Hoch, 2004; Irwin et al., 2004). As alluded to in the closing sentence of the previous section, there may be secondary factors related to previous athletic ability that may contribute to the development of coaching knowledge. It is possible that the QAS coaches' better-than-average but less-than-outstanding sporting abilities gave them opportunities to develop their coaching skills early in their personal histories. Indeed, given the suggestion that those who are not outstanding performers develop strong analytical skills to compensate for reduced natural ability (Irwin et al.,

2004), the QAS coaches may have begun to develop some skills that are highly relevant to coaching during their time spent as athletes. Clarke makes this point by saying *"I think my failings were a reason why I am able to be a good coach because I can communicate to players ... I can coach"*. The point being, that he felt he was well placed to help others develop their skills because his skills did not come automatically. This appears to be in keeping with the rest of the QAS coaching group in that they generally rated themselves as being above average but not outstanding performers.

What was Gained

In general, the coaches in the study by Irwin and colleagues (2004) indicated that past athletic experience allowed them to know how the skills felt to perform and therefore allowed the coach to facilitate the relationship with the gymnast (Irwin et al., 2004). Other researchers have described previous athletic involvement as an 'apprenticeship of observation' in which prospective coaches develop tacit knowledge about sport and coaching tasks from their own coaches and from direct playing experiences (Gilbert, Niino, Wahl, Conway et al., 2004; Lynch & Mallett, 2006). QAS coach Carl explained how he had used his experience as an athlete to help him in performing his coaching work. He said *"I've probably developed my own techniques to start off with based on what I knew as an athlete"*. The limited scope of this statement is of interest with Carl only referring to one aspect of his coaching work; teaching techniques. One of the QAS administrators made a suggestion that was somewhat more in keeping with the broader notion of an 'apprenticeship of observation'. With regard to the QAS coaches, Alan said *"initially you learn by your own personal experiences whether they be good or bad as an athlete, if they were athletes themselves, or working with other coaches"*. Similarly, Jones and colleagues (2003) in their life story

description of a top level soccer coach, note that he referred to his own playing days when deciding what information to integrate and reject and also more broadly with respect to his coaching philosophy and actions. Again though, the scope was somewhat restricted to coach interactions with players.

The aforementioned 'apprenticeship' has also been characterised as a means of professional socialisation into coaching given the inherent limitations in formal coach education systems (Sage, 1989). While conceding that experience with the sport could have been as a competitor or *"as a parent who got involved because their son was involved"*, administrator Ashley echoed this sentiment by saying *"you have to have been inducted through the sport at some time or another"*. Jones and colleagues (2003) support this contention by suggesting that as a result of previous playing experiences, individuals are already exposed to the cultures of coaching prior to their appointment. This has both positive and negative implications. For example, it may help facilitate the easy transition into coaching through the individuals' familiarity with the associated sport-specific language and practices, however, it may in fact inhibit innovation and stifle new ways of thinking if the culture is resistant to change.

It appears then that although there are some limitations related to the scope of potential learning, the previous athletic experiences of QAS coaches are valued in some way with respect to their current coaching work. Aside from knowing how it feels to perform a particular movement (Irwin et al., 2004), it appears as though some of the benefits of being a previous athlete in the sport, might be gained from other sources. As noted above, one administrator suggested that much of the knowledge derived from previous athletic involvement could be gained from being a parent of an athlete in the sport. In addition to this, previous athletic experiences at different levels of sport were not differentiated by the coaches in this study when they discussed what they had

gained. The critical thing seems to be some immersion in the sporting context, whether it is as a competitor at a variety of sport levels, as a parent, or as some other significant member of the relevant sporting community.

Summary of Experiences as an Athlete

In summary, the recalled experiences of QAS coaches as athletes show a large volume of experiences in both competition and training, but also great variability between individuals. For this reason, it may seem reasonable to suggest that while previous athletic experience across a variety of different levels may be useful regarding the development of coaching skills, it may not be a necessity. Perhaps the greatest contribution that athletic involvement makes is providing a base knowledge of techniques and drills and in socialising individuals into ways of acting prior to the advent of other coach development activities (Jones, Armour, & Potrac, 2003). It is clear that the skill sets involved in performing athletic tasks and performing coaching tasks are quite distinct with only quite specific areas of overlap such as sport specific knowledge (Irwin et al., 2004).

Experience as a Coach

Every QAS coach was asked to rate the value of different sources of information regarding their development as a coach. They were asked to do this with reference to three different time points; in the first two years of their coaching, in the middle two years of their coaching, and in the most recent two years of their coaching. The coaches rated 'on the job experience' (i.e., experiences while performing coaching work), as being of greatest value to their development in all three time periods. Further emphasising this was Charlie's comment in his semi-structured interview that *"you*

learn to be a coach by coaching". The administrators reinforced the importance of this source with Alastair saying *"coaches need to learn on the job"*. In combination, these provide compelling evidence regarding the utility of coaching experience to the current coaching work of QAS coaches. Empirically supporting this is the large amount of literature highlighting the contribution of previous experience to coaching expertise (e.g., Abraham et al., 2006; Côté, 2006; Gilbert et al., 2006; Nelson & Cushion, 2006; Telles-Langdon & Spooner, 2006; Trudel & Gilbert, 2006; Way & O'Leary, 2006; Werthner & Trudel, 2006). It needs to be acknowledged that their previous coaching experience obviously takes into consideration their coaching experiences since becoming a QAS coach, and also in a range of other coaching situations prior to their employment with the organisation.

Regarding the volume of experiences that the coaches reported, they averaged 24.2 years of coaching experience in all sports combined and had an average of 21.8 years of coaching experience in the sport they currently coach. The volume of previous coaching experiences of the QAS coaches are greater than the elite amateur sport coaches in the study by Gould and colleagues (1990) who typically had 15 years of coaching experience. The volume was however, more in line with the findings of Gilbert and colleagues (2006) and Lynch and Mallett (2006) who suggested that the coaches in their studies averaged 23.4 years and 28.2 years of coaching experience respectively.

As with their athletic experiences, the extreme individual variations were a feature of their coaching experiences, which ranged from 4 to 38 years. The breakdown of coaching experience into different sporting levels revealed a pattern of escalating involvement, particularly in the volume of training, but there was great variation in the individual volumes of their coaching experiences. Variability was also seen in the

individual coaching experiences of the talented coaches in the study by Gilbert and colleagues (2006) who had a range of 5 to 40 years. Similarly, Lynch and Mallett (2006) recorded ranges of experience in their athletic coaches of between 12 and 45 years. The conclusion that has to be drawn is that like the coaches in other studies, the previous coaching experiences of individual QAS coaches are highly variable and idiosyncratic. The implication is that judgments regarding coaching ability can not be based on the volume of coaching experience alone.

What was Gained

It has been proposed that previous coaching experience (in combination with previous athletic experience) is the closest thing to having formal professional socialisation for coaching (Sage, 1989). Given that I will be using the theory of relational interdependence to further examine the learning of coaches later in this thesis, I am somewhat uncomfortable with the use of the term 'socialisation' to describe the learning of the coaches. Having said that, the notion of 'coming to know' was a theme that ran through a number of interviews, whereby no single incident was identified for the development of an aspect of coaching work.

It is clear that like their athletic experiences, the previous coaching experiences of QAS coaches are making contributions to their continued development. Coaches learn a variety of things while preparing for, or performing their work. The ability to take shortcuts or at least make more educated decisions was something which was identified by coaches as a contribution previous coaching experiences made to current coaching work. Clarke said *"what I can see in a player now is, if they are having issues in their life that are going to affect down the track I can pick up on that a lot earlier and confront them"*. He went on to argue that this meant he was able to more efficiently use

his time and avoid other issues in the future. An administrator supported this claim by saying:

> *Like the first time you have an issue with an athlete or you know, you might really, really, really have to think it through and consult somebody else 'how did you do this? Da, da, da, da, da'. But the third time or the fourth time or the fifth time it happens, you know what to do.* (Aidan)

Extending on this theme of experiences working with athletes, Carl said that earlier in his coaching career he had had the opportunity to work with two athletes who had gone on to become two of the best in the world in his sport. He indicated that having seen current elite performers when they were junior athletes, he now had a frame of reference regarding current juniors who aspire to the top levels. Calvin emphasised this point too by saying *"there is nothing like experience with athletes and seeing what has worked for them and knowing that if, you know, you stay positive and you follow a certain route that things will happen"*. In short, previous experiences with athletes allowed coaches to be more efficient and effective by taking pre-emptive measures. Their previous experiences undoubtedly also gave them, and presumably their current athletes, some piece of mind regarding the outcomes of current training or treatment.

Chris indicated that meaningful development came from coaching experience because as the coach, you are obligated to make decisions regarding your athletes. He said that there was a need to learn *"from the experiences you have and ... the situations where you get to make the decisions"*. The point being alluded to is that the coach is responsible for the final decisions (with the obvious exception being when the athlete objects) and this responsibility and the outcomes that are achieved lead to more meaningful learning. This sense of overall responsibility and the development that occurs in these situations was somewhat likened by coaches and administrators to

drowning in that coaches either learned to perform the work quickly or perished. Calvin said *"that's how you get better, by being thrown in the deep end and struggling a bit"* and Aaron agreed by saying *"you are thrown in the deep end so you suss* [figure] *it out yourself"*. The use of the phrase 'being thrown in the deep end' gives the impression that coaches are being asked to perform work that they are not well prepared to undertake, hence creating the need to swim or else sink. Related to this is the notion of trial and error, which was a major theme discussed by coaches and administrators alike.

The administrators were confident that learning through trial and error was a way in which QAS coaches came to know. Aidan commented that, *"*[coaches] *might learn by doing it, and if they do it wrong, learning from that, if they do it right, going on"*. When asked how they believed the QAS coaches learnt how to perform the most difficult tasks required of them, the administrators cited trial and error. In response to this question, Alastair said, *"trial and error ((laughs)) a lot of the times* [is how they learn some of the difficult tasks]*"*. Ashley said, *"you will learn, unfortunately, by your mistakes* [with] *different athletes"*. Alastair's laugh in his previous statement and the use of the word 'unfortunately' in Ashley's response to this question gives some indication that while trial and error is a recognised learning strategy, it may not be the most efficient in a variety of situations. This is in keeping with the results of Irwin and colleagues (2004) who found that while learning in this way was a major source, it was not necessarily by choice.

When asked how he learnt some of the easier tasks he currently performed in his QAS coaching work, Clarke said, *"as far as my sport is concerned, how do you learn the easier roles? You do it. You try it"*. Craig made this point by answering, *"trial and error* [is how I learnt the administrative tasks]*"*. He then went on to say that the need to employ this kind of learning strategy made it difficult when he first started his job. A

slight sense of frustration is evident in this comment by Charlie: *"you learnt a lot of things by tripping over them, you know, making a mistake and then finding out the right way to do things after you've made a mistake, rather than getting all of the information up front"*.

Summary of Experience as a Coach

QAS coaches consistently reported that they highly valued previous coaching experiences in terms of the development of their coaching practice. As was outlined in the discussion of QAS coaching work in the preceding chapter, it is clear that coaching elite QAS athletes involves more than simply hands on coaching activities. By engaging in these various experiences, the QAS coaches reported that they had been able to learn a range of things that now contributed to their ability to perform their coaching work. The contributions of learning through daily work activities were strongly emphasised and highly valued by the coaches. As will be discussed in the subsequent chapter, the theory of relational interdependence emphasises the potential contributions that engagement in everyday work tasks can make to the development of workers (Billett, 2004c). Eraut (2004) cautions that there is a need to consider what counts as experience and that it is the role of attentional focus that brings these experiences into conscious thought. While the specifics of human cognition involved in learning is beyond the immediate scope of this chapter, suffice it to say that the mere accumulation of experience is not sufficient to facilitate meaningful learning (Eraut, 2004; Lynch & Mallett, 2006). So while previous coaching experiences and engagement in everyday work activities were highly valued, the quality of those experiences requires further consideration.

General Life Experience

Something that the coaches and administrators brought up in the interviews was the notion of 'life experience'. Most often this was in reference to the development of core values and broader attitudes but the connection was made with how the coaches performed their work. These experiences were said to occur throughout their lifespan and generally related to the broad idea of gradually coming to know, or even coming to be. For example, Chris said, *"about my coaching, I think you never ever overcome the influences that were had on you when you were a kid"*. He went on to say that it was the experiences he had as a child, being surrounded by hard working people, that led him to develop the strong work ethic which was now reflected in how he performed his coaching work. Clarke too described his ability to read people as: *"something that has come to me over time"*. While not proposing that coaches are born as coaches, Andrew suggested that it was the life experiences of the QAS coaches that led them to be the kinds of coaches that they are today, rather than being limited to coaching and/or athletic experiences alone.

The development of these dispositions* or ways of being across a lifetime is in keeping with Billett's 2006b) discussion regarding the need to consider an individual's personal agency. When attempting to understand the learning occurring (or not occurring) in a workplace, he urges a consideration of personal agency and the ways in which it is shaped over time (Billett, 2006b). So from the examples above it might be said that the individual's intentionality, subjectivity, and identity, as it relates to coaching work, is not limited to their previous coaching and athletic experiences. Rather it is shaped and re-shaped throughout their entire personal history.

Self-directed Reading

In keeping with some recent Australian research (i.e., Williams, 2007), the QAS coaches identified reading material as a significant source of coach learning. The genres ranged from biographies and autobiographies of well-known athletes and coaches, through to peer-reviewed journal articles on topics like periodisation. Obviously, this source may be accessed independently of the QAS or through the organisation. Regarding the organisation, the information centre is a provider of materials, both electronically and in hard copy. The provision of internet access for all QAS coaches means that they can access a range of reading materials via the internet. While the information centre will be addressed separately during the discussion of QAS sources, it should be noted that the discussion in this section will relate to the information centre in some respects.

There were a number of factors identified by the coaches that made this source appealing. Given that a fear of appearing unintelligent will be mentioned with regard to a number of other sources (e.g., regarding the QAS administrative staff), its omission from the discussion of this source is significant. The significant advantage of this source is the fact that QAS coaches can access it quite surreptitiously. In this way, there is no need to reveal areas of perceived weakness to others within or outside of the QAS.

Chris and Calvin referred to learning through this source as a gradual process by which an understanding of different aspects developed over time. Chris noted that for him, particularly early on in his coaching, the only way he could learn about some aspects of his sport early on was through reading. This reading was felt to be important because it helped to justify the decisions made in his program. The convenience of the source was something identified by Calvin and Charlie when they said, *"it is handy to be able to read about it"* and *"I like being able to refer to things readily"* respectively.

Aside from a feeling of ownership and the gradual understanding of various aspects, the coaches mentioned a range of more specific things that they gained through engaging in self-directed reading. Research articles on physiology and technical aspects of their respective sports were favourites of Charlie's and Calvin's while Clarke identified more pedagogical dimensions to his reading.

With regard to reading materials, the internet was a subset of this source that was specifically identified by coaches and administrators. It was the access to vast amounts of information that was generally discussed by coaches and administrators. But this was not without problems. Charlie noted that *"you have to be careful about the validity of the information"*, and while Calvin acknowledged the potential of the source he said *"the use of computers and some technology I wouldn't access* [as much as other coaches]*, some of it is just because I am not overly proficient at it"*.

Charlie and Calvin (both of whom had previously identified reading as a source for their learning), noted that information regarding their sports was not easily found. Charlie said, *"my sport is a frustrating sport because there is not a lot of information easily found on it"* while Calvin lamented that, *"with everything to do with coaching in my sport you can't find in a book, not stuff that I needed to learn"*. A related issue is the potential mismatch between the methods of consumption preferred by coaches and the preferred methods of dissemination from researchers. Researchers' preferences for publication in scientific journals and presentations at conferences may mean that important research findings are potentially inaccessible for sport coaches (Williams, 2007). Although he said it was not a good thing, one of the coaches noted that as time passed, and he became more confident in his work, he became less inclined to seek further information. Finally, Carl stated that learning through this medium was simply unappealing. He said *"I'm not a person that reads much"*. In Carl's case it is obvious

that the degree to which he accessed reading materials was directed by his personal agency.

Formal Tertiary Study

One of the recommendations of the Australian Government commissioned 1975 Coles Report was the establishment of tertiary level programs of coach education (Phillips, 2000). More than 30 years on, the establishment of tertiary opportunities has been only a recent development. In the face-to-face questionnaires completed by all QAS coaches, the coaches were asked to retrospectively rate the value of tertiary study in their coaching development on a scale of 1 (little value) to 7 (extremely valuable) over three separate time periods. For those who had attained degrees in sport-related fields such as sports science or human movement studies, their assigned rating were very high: 4.6 in the first 2 years of their coaching, 6.8 in the middle two years and 6.8 in the most recent two years. Given that a number of the coaches had not begun or finished their qualifications in the first two years of their coaching, we might concentrate on the perceived value of tertiary study in the middle two years, and the most recent two years of coaching. The level of perceived value was in excess of that assigned to learning on the job, a source acknowledged as being of utmost importance. The results indicate that formal tertiary study was rated as being extremely valuable by those who had completed some form of sport-specific tertiary study. This serves to strengthen the case made by other research which identified university-based academic training as a very useful component of coach development (e.g., Salmela & Moraes, 2003).

The significance of tertiary education to the QAS is indicated by the hiring of coaches with tertiary qualifications, and was supported by Andrew when he said *"*[the

QAS] *do recognise the benefit of formal education"*. Andrew did suggest however, that this involvement was more limited in recent times: *"there are regular opportunities to learn at universities and I don't think our coaches are encouraged to go to those"*. Ashley and Alastair provided a counter argument with Ashley saying, *"they've been told, 'if you want to enlist to do a TAFE course or something like that, we will pay you'. We'll pay the $200 or whatever it is. Not one of them* [has taken up the offer]*"*.

Most coaches and administrators noted the Diploma of Business Management as an opportunity previously provided through the QAS. There were mixed opinions regarding the worth of this particular program of study. Given the aim of the QAS as a high performance sporting academy and also given the research indicating the increasingly managerial components of elite coaching work (e.g., de Swardt, 2006; Leonard, 2005; Reid, 2007), the provision of this course might be viewed as a step in the right direction for the QAS. The format and structure were obviously problematic at times and perhaps by offering the one diploma course to the entire coaching cohort neglected the obvious need to individualise learning opportunities for these coaches.

To summarise, greater than 70% of the QAS coaches had completed some form of formal education since leaving school with one third holding Undergraduate or Masters level qualifications. Although this is slightly lower than the levels of tertiary qualification seen in the US elite amateur sport coaches in the study by Gould and colleagues (1990), this is still a significant aspect of the QAS coaches' personal histories. While all forms of tertiary study were felt to have some positive impact on the current coaching work of QAS coaches, sport-specific study was deemed to be extremely useful and relevant to the work of those who had undertaken such study.

State and National Sporting Body

There were a number of sources of learning that coaches and administrators identified as originating through the sporting body. These included things such as conferences and workshops, coach accreditation courses, coaching literature such as manuals, and involvement with the national program.

Conferences and Workshops

The various sporting associations provide some coach development opportunities. Aidan explained one aspect by saying, *"each of the sporting associations might have a national conference, like a national coaching conference"*. The existence of seminars, workshops and various speaking engagements was also noted by coaches and administrators. Charlie noted that as with many of the sources of learning previously identified, these offerings from the relevant sporting associations, *"vary incredibly in terms of whether they are beneficial or not"*. Having said that, he went on to say *"if you have the right presenters you walk away with information that is new to you and rewarding and also the opportunity to again, interact with other coaches"*. This interaction with other individuals was obviously important to Calvin as evidenced when he said, *"there is usually other professions there* [at conferences and presentations] *and people that you can talk to about it so that can be reinforcing because you can talk about what has happened"*.

Coach Accreditation Courses

Calvin said *"*[I learnt] *through coaching courses, like level 1 and 2 coaching courses"*. But while these courses may be of some benefit, particularly for beginning coaches, their contribution is thought to be somewhat limited for high performance

coaches (Lynch & Mallett, 2006). Alastair reinforced the somewhat limited impact of coach education courses for QAS coaches by saying, *"in my opinion the accreditation system is limited"*. The conclusion is that despite the some positives achievements of the coach accreditation system in Australia, it is clear that QAS coaches have developed, and will have to continue to develop their practice largely through other means.

Coaching Manual

Somewhat related to the coach accreditation courses are the coaching manuals developed and produced by a variety of sporting associations. Again, it appeared as though these materials had limited impact regarding the current coaching work of QAS coaches. Calvin's criticism was focused on the content, specifically the dearth of skill resources in his sport:

> *one of the problems with my sport is that there are not manuals on how to coach particular skills. If you are a basketball coach you can find a book on 5000 drills for basketball but you never find anything like that in my sport.*

In the study by Irwin and colleagues (2004) coaching manuals were identified as one of the lowest ranked sources of learning for coaches. Similar to Calvin's criticism, the coaches in their study suggested that literature was not readily available and tended to be of poor quality (Irwin et al., 2004).

Involvement With the National Program

Carl suggested that one of the most useful sources of learning for him since being employed with the QAS had been *"attending things with the senior national*

program". He went on to say, *"I deliberately got myself more involved with the senior national ... program, because I wasn't going to learn much here"*. This also gives some indication of the intellectual isolation that many QAS coaches appeared to experience.

Alastair and Aaron both suggested that it was technical and tactical information that was gained through the increased involvement by the national programs. As a coach, Carl provided a slightly different perspective. While it was clear that the technical and tactical information was useful, it was other, more subtle aspects that were of great benefit. Carl said that through his involvement with the national program he benefited from taking in: *"how the coach interacts with the athletes, the programming, how a training session runs, how he interacts with his sports science people, how he interacts or incorporates other people that come out to the sessions"*. Charlie made similar comments.

The major issue regarding this source was the time that the coaches are away from the QAS training environment. Calvin indicated that the coaches understood this, saying *"it isn't really encouraged and I got the feeling that if QAS coaches go and take on national jobs then the continuity of the domestic program suffered"*. The point that should be made is that the QAS does provide time for their coaches to spend away from the domestic program to perform duties for the national program. The QAS goes beyond the nationally agreed two weeks with Ashley stating, *"one month, we allow for coaches to do stuff as part of professional development with national teams"*.

The suggestion from some was that instead of the QAS coaches leaving the QAS program for periods of time to go and visit the national program, that the national program coaches take time to visit the QAS coaches. Aaron said that the QAS generally does not access the national coaches in this way, *"because they are tied into delivering*

a result for Australia". There was also, at times, a sense of geographical isolation in relation to the QAS with the coaches of national programs often located in the southern states (New South Wales and Victoria in particular).

Despite the fact that both the coaches and administrators indicated that the coaches of national sport programs were potentially a source of meaningful learning, there were some significant concessions made. Alastair said *"there is a role to play with national teams but once you do it once or twice you have to question how much professional development there actually is for the coach"*. As has been suggested before, there may be a number of reasons for Alastair's attitude here. First, it may be that he feels that the QAS coaches are nearly as good, if not better than the current group of national coaches. Calvin provided some support for this view citing his experiences in trying to seek information from some national coaches in his sport:

> *I have even asked national coaches … I was asking 'is there anything written on technique for tips for* [a certain event] *for instance?' and the only answer was 'well, obviously you have never competed in one.' ((laughs)) But, I don't think that is acceptable.*

Irrespective of whether this example reflects a lack of knowledge, a reluctance to share, or both, the value of this source was seriously compromised for Calvin.

The other reason for Alastair's comment regarding this source may be more reflective of the deeply entrenched acquisition metaphor of learning. In this case, QAS coaches would only need to spend a relatively small amount of time with the national coaches so that they have the chance to 'acquire' any missing knowledge, with no need for repeated visits. In reality, Alastair's comments are probably a little reflective of both suggestions. If, however, the QAS coaches are able to establish a rapport with a

national coach of high quality, repeated visits may be more justifiable with respect to the participation metaphor of learning.

Attending Major Sporting Events

In general, the coaches that spoke about watching sporting events were quite adamant that it was a valuable source, with Clarke being the most outspoken about its importance: *"it should be mandatory for a coach to attend the World Cup and the Olympics events of his sport"*. He went on to explain that it was not necessarily the game play or actual performances that the QAS coaches needed to see, but rather it was the pre-event preparation and build up that may be most useful. Chris was another coach who supported the need to travel overseas to secure coaching knowledge. He made the link with learning from high level athletes, suggesting that through involvement with representative teams at major events, even in very peripheral roles, he was able to establish a rapport with high level athletes, who he was able to seek guidance and information from later. Time spent away from the QAS environment was a reason cited by coaches and administrators regarding why this source was limited at times.

Visiting Other AIAs and Professional Organisations

Some QAS coaches identified Australian institutes or academies of sport (AIAs) and other professional sporting organisations as sources for learning. These trips were openly supported by Alastair who said *"those* [trips overseas to visit other professional organisations] *are the kind of things that we need to do because ... we want to be the best in the world"*. Similar to attending top level sporting events, while the coaches saw

value in visiting other sporting organisations, the time away from the QAS program and the associated costs often meant that it was not feasible.

While the aim for all AIAs is the betterment of Australian sportsmen and sportswomen, it should be considered that the AIAs are often in direct competition with each other. Because of this, spending time at other AIAs is problematic. It is for this reason that a number of coaches have travelled internationally to access other professional organisations. Again, this can be somewhat problematic given that the aim is to have QAS athletes competing internationally. The issue was that establishing the trust and rapport that leads to the most rewarding interactions and learning takes considerable time. It is the fundamentally competitive nature of sport performance that means the willingness of others (coaches and organisations) to afford the QAS coaches opportunities can be quite limited. This is in contrast with the seemingly collegial and supportive environments discussed by some Community of Practice* (CoP) frameworks (Frost & Schoen, 2004; Wenger & Snyder, 2000).

Current and Former Athletes

Administrator Ashley suggested that *"coaches learn as much from their athletes as from ... other stuff* [e.g., workshops, seminars and the like]*"*. Craig gave some further indication of the importance of this source when he said *"learn off the athletes. I think that is the biggest thing"*. He went on to caution that there were certainly athletes who were more knowledgeable and could therefore contribute more to his coaching development than others. It was not just current athletes in their squads that QAS coaches identified as a source for their learning. Both Calvin and Chris identified professional athletes, competing internationally in programs outside of the QAS, as sources that they found useful. Chris said, *"I have learnt so much from working with*

the [athletes] *I used to coach when they come back here"*. He also said that he felt he could *"learn more from working with the good players than the guys that are currently coaching in Australia"*.

Accessing international level athletes and even seeking feedback from current athletes in QAS programs is not without threat to the coaches. Calvin stated, *"when I first started I wouldn't have the confidence to ask for as much feedback from athletes in case they said I was ((laughs)) wrong"*. It is this theme of isolation, and the fear of being seen to not have all the answers that pervades much of the coaches' discussion of the sources of learning they access. This factor has obvious connections with their individual agency which, in turn, directs their efforts to learn.

Other Coaches (Non-QAS)

Coaches outside of the QAS were viewed as a source for learning throughout the careers of current QAS coaches. Administrator Aaron put it simply by saying *"you just learn from other coaches"*. A variety of coaches were identified with Craig suggesting his learning came from *"other coaches from within the sport and outside the sport"*. This source of learning was used throughout their coaching careers although it seemed as though the actual coaches they accessed changed during this time. There were some distinct advantages to this source of learning. Primarily, it was the fact that coaches within their sport were felt to have great credibility. Craig said, *"*[I prefer learning from other coaches because] *they are the ones that are out there doing it"*.

The suggestion was that often it was simply the observation of other coaching that led to some kind of reflection or self-analysis. Calvin said, *"you always learn something new* [from coaches at different levels] *because not everyone does things the same"*. It was not always intentional on the part of the other coach, as suggested by

Calvin's comment, *"they are not setting out to teach me anything but I will just pick it up by watching them"*. Sometimes it may not be entirely intentional on behalf of the QAS coach either with Calvin then suggesting *"without probably realising it, I'll be watching a coach and how they operate or how they teach a skill or their way of managing things"*. This basic observation or monitoring of other coaches' behaviours was both explicit and implicit at times and was certainly quite different from actually engaging in meaningful discussion with other coaches. The QAS coaches did engage in deeper discussions with a variety of other coaches but when discussing non-QAS coaches in general, it was the observation of others that was felt to be most useful, particularly in international contexts where the competitive level reduced the possibility of generative interactions.

In addition to discussions of training techniques and associated processes, Aaron noted that skills in analysis and observation may be developed through discussions with other coaches. Extending this further, when discussing a relationship he had with another coach in his sport Chris said, *"what developing that connection with him* [the other expert coach] *did for me was, make me feel ... I'm alright, I'm not just out in space drifting around by myself"*. This might be viewed as affirming coaching work practices as well as his societal position. It might be argued that this is extremely important not only for Chris' functioning as a coach, but certainly for his overall feelings of self-worth and accomplishment. Sage (1989) suggests that it is largely through these types of experiences that collective understandings begin to develop. In this way, shared meanings about the occupational culture of coaching start to take shape for new coaches (Sage, 1989).

The major issue was with respect to the highly competitive nature of elite sports. Craig said, *"there is this protective thing because they coach some of the athletes that*

are direct competitors to my athletes". Chris provided further evidence of this when he said, *"you run into a lot of coaches who are very defensive about their knowledge"*. This means that even if the QAS coaches have access to other coaches, it is not a given that they will be able to gain anything from it. Chris relayed a conversation he once had with another coach:

> *I've heard a highly regarded coach say 'I'll give you a piece of advice … don't give 'em all your knowledge' … he was talking about other coaches. 'You've got to keep some of it to yourself so you've got an edge'.*

To be able to have discussions, which touch on the issues that are important to high performance sport coaches, there is a large amount of trust involved; trust that the person you are talking with is being as open and honest as you are, and trust that they will not be judged for acknowledging that they still have much to learn. Regarding this, Chris said, *"it takes a long time for people to really trust you I guess and also respect you enough to want to talk through some issues"*. It is the length of time taken to establish this rapport (generally over many years) that appeared to be more extreme than in some of Billett's research (e.g., Billett, Ehrich & Hernon-Tinning, 2003).

A final issue with this source of learning was related to the actual capacity of other coaches to contribute to the learning of QAS coaches. While I did not perceive it as arrogance on the part of the QAS coaches, they stated that in many cases, other coaches in their particular sport were simply not knowledgeable enough to be able to help. Calvin said quite simply *"most of the coaches in my sport really can't tell you much"*. Similarly, Chris said, *"I have reached a level now where I feel I am in many areas the equal or superior to any coaches in Australia"*.

Other Trained Professionals

Craig explained that it is his support network of para-professionals who he seeks to learn from. This network is made up of a variety of individuals such as those that have been previously discussed (e.g., other coaches and athletes) as well as a number of people outside of his particular sport. For many coaches, this network draws on those outside of the direct sporting environment altogether. Calvin and Chris identified a range of individuals including those involved in university and medical settings. Andrew suggested that the coaches learn the more difficult tasks *"through sharing with others either within coaching or within other fields such as business"*.

Summary of External Sources of Learning

In this summary, the sources of learning have been designated as either 'primary', 'secondary' or 'minor' with respect to the overall contributions they made to the development of the QAS coaches as an entire cohort (Table 2). Obviously, individual coaches had differing experiences with each of these sources. It should also be noted that the designation of a source as 'secondary' or 'minor', does not mean that the source itself was inherently limited or of poor quality. For some sources, coach access was previously limited and therefore could not make significant contributions to their development. The obvious example was formal tertiary study. It is designated below as a minor source but the coaches that engaged with sport-related tertiary study found it to be extremely valuable. It is categorised as a minor source because only a relatively small number of coaches had engaged with the source. In contrast, previous athletic experience was generally felt to make modest contributions to coaching work as their careers progressed, however, the fact that all coaches reported this as a source for their learning meant that it was designated as a secondary source.

External Sources of Learning	
Primary sources	Previous coaching experience
Secondary sources	Previous experience as an athlete General life experience Self-directed reading Other coaches (non-QAS)
Minor sources	Formal tertiary study State and National Sporting Organisation provisions Attending sporting events Current and former athletes

Table 2. Summary of external sources of learning

While the broad sources of learning discussed in the preceding section are generally beyond the control of the QAS, they no doubt have an impact on the quality of work performed by QAS coaches. The degree to which these sources contributed to individual coach development varied, however, it is possible to identify some common themes amongst the cohort. An obvious feature was that previous coaching experience was by far the most valued source of coach development. While it was not without its problems it could be considered to be a primary source of ongoing coach learning in that it was reportedly used by all QAS coaches and was also highly valuable in terms of its perceived value. Secondary sources included (in no particular order) previous experience as an athlete, general life experience, self-directed reading and non-QAS coaches. Minor sources included formal tertiary study, provisions through the SSOs and NSOs, attending sporting events, visiting other AIAs and learning through current and former athletes.

It will be argued in the subsequent chapter that given the current work climate of constant change, the workplace may be the most appropriate place in which to foster legitimate and meaningful learning. For organisations like the QAS, the workplace may provide the greatest prospects for vocational development. Firstly, it is interesting to note that the QAS administrators offered a range of explanations regarding their reasons for wanting to foster coach learning at the QAS. One reason that was cited by Alastair and Alan was the drive to be a better organisation. The underlying premise is that continual coach improvement is central to this goal. Ashley also noted that coaches who were constantly improving in the work they performed required less attention from the administrators: *"at the end of the day the more they can do effectively and the better they are at it, the less* [administrators] *have to do"*. There were also more altruistic reasons cited by the administrators. Andrew was well aware of the difficult tasks that coaches perform and expressed a strong desire to aid those carrying out those tasks: *"this is my opportunity to share in some way with the people who are sticking it out, who are doing it tough ... what a thankless profession"*. Ashley too, expressed similar sentiments saying *"I like to see coaches become very proficient and really enjoy what they are doing"*. It was these reasons that were offered as justification for what the QAS coaches were offered. These affordances are discussed below.

Generic Provisions

One of the QAS administrators made a good point regarding the provisions of the QAS. Aaron said, *"*[the QAS provides a computer and internet access so] *you can get onto the web and websites and you can send emails and ask people questions"*. The basic provision of phone and internet access means that coaches are well positioned to

access a range of people and resources that would otherwise be at a significant personal financial cost. More broadly, Chris commented *"*[being in this job] *has put me in a situation where I could become involved and be much more active about learning"*. He elaborated on this by saying that by holding a full-time coaching position at the QAS, that his drive to continue to learn and develop his coaching knowledge was justifiable. He also noted that because of his position as a QAS coach, he had access to other coaches and organisations that he would not otherwise be able or eligible to access.

Induction

Being an older coach, Charlie questioned whether the induction process *"is different now for coaches arriving?"* because as he explained, his experiences were best characterised by trial and error. These problems appear to have been acknowledged by the administrators in that they spoke of the steps they had taken to improve the induction of new coaches to the QAS. Aaron emphatically stated that the QAS had *"a better induction than we have ever had before"*. Alastair also alluded to the changes that they had made saying *"I am fairly comfortable now with the inductions that happen with the coaches"*. In terms of the focus of the induction, a sense of cynicism was present in Andrew's comment that the QAS *"provides a highly structured induction program on can and can't do's"*. The induction process was primarily aimed at familiarising new staff with the overall structure of the QAS and had a strong administrative focus, outlining the range of reporting requirements for coaches.

Team Briefings

The team briefings at the QAS compulsorily involve all QAS staff located in Brisbane. Following the team briefing, there is a coaches' meeting conducted which

involves all coaches and the Sport Programs Managers. Alastair noted that although in general the content is primarily focused on administrational matters, the overall aim was to move to a more learning orientated model for those meetings. While he cautioned against viewing the meetings as unproductive, Alastair did say *"we haven't got the formula right in terms of what we want to achieve during coaches meetings sometimes"*. At this point, some responsibility for this was shifted to the coaches when Alastair said *"*[the coaches] *have to come up with some kind of topics which we can organise* [to run coach meetings around] *but I think the impetus has to come from them"*. Even though these meetings are organised and conducted by management, it was a little unusual that only QAS administrators spoke of these as a source of learning. It would perhaps be a concern for administrators given their previously stated aim of moving towards greater learning outcomes for the coaches. This discovery serves to highlight the potential barrier to establishing and maintaining a fully-functioning CoP in that the basic provision of opportunities is necessary but not sufficient for coach learning to occur. In this instance it appears as though the QAS coaches do not value the coaches meetings in terms of developing their coaching skills and therefore do not engage in ways that the QAS administrators envisaged.

Information Centre

The information centre was identified as a source of coach learning. It was predominantly the administrators who initially identified it as a source of learning for the QAS coaches, with the coaches themselves generally discussing it after some time had passed in the interview. Some coaches noted that at their request, a great number of texts had been purchased while others had quite limited contact with the information centre.

What was Gained From the Information Centre

Alastair said *"*[what they get out of the info centre] *is really knowledge and keeping up with current trends but then the question is the application of that"*. This gives some indication of the acceptance of the administrators that no matter what is provided to QAS coaches, it is the coaches' application of that learning that will make the difference. This is in keeping with the notion of relational interdependence in that it is not simply the context, nor the individuals' motivations that determine the learning outcomes; it is the interdependence between them. Alastair, Ashley and Alan all went on to refer to more specific aspects of the information centre which may contribute to coach learning. Ashley's essentially summarised the comments of the others by saying *"any coach ... should be receiving journals and they should be receiving updates* [from the info centre]*"*. Clarke was a coach who agreed with this, saying *"*[sources of learning for me include] *journals ... and things through the information centre that I can get through Meleah and ask her to subscribe to, that's a great source"*. Charlie also indicated that the information centre provided some resources that he valued: *"the recording of DVDs and videos on the sport is of great assistance"*.

Barriers to Learning From the Information Centre

From an administrator's perspective, Ashley offered this observation, *"you can take a horse to water but can't make it drink"*. The intimation here is that the information centre has been afforded to the coaches, and it is up to them whether they avail themselves of it or not. Citing the work of Billett and others (e.g., Billett, 2004b, 2006b; Fenwick, 2001) I argue in the next chapter that many accounts of learning have overly privileged social suggestion. Ashley's comment gives tacit support to the notion

of relational interdependence in that he indicated his practical awareness of the impact of individual agency on engagement.

Regarding their lack of engagement with this source, two of the coaches noted that the staff in the information centre were excellent, with Calvin saying, *"certainly the staff there* [in the information centre] *are very helpful, so it's certainly not them* [that stops me from accessing it more]*",* and Craig saying, *"I think it is a great facility.* [I've] *got no problems with it, and the staff in there are unbelievable, they are awesome"*. Despite this, there were a number of factors identified by the coaches, regarding barriers to the effective use of the information centre.

One problem appeared to be the currency and completeness of the collection of resources. This was partly to do with the nature of publishing academic works. Clarke said *"a lot of stuff that you get in there ... is outdated because it is 6 to 12 months in the past"*. Regarding the comprehensiveness of the collection, Charlie noted that, *"it doesn't have anywhere near the archive that the AIS has. I don't know whether it is a cost thing or just systems weren't in place to really capture and file things for my sport from day one"*. While this comment was more directed towards video footage of major events, Charlie went on to say that the reference collection was also a little limited. Given the size and number of staff, it would be virtually impossible for the QAS information centre to rival the collections of most institutional libraries. Despite this, the coaches and administrators noted that the information centre provides journal alerts and articles to any coach who wishes to receive them. It appears then that there are other factors that are more salient with respect to engaging with this source.

Prioritisation of this source amongst the range of tasks involved in QAS coaches' work was an important determinant of whether it was deemed to be a significant source of learning for the QAS coaches. Calvin suggested that he ended up

"getting tied up doing other stuff" and therefore didn't have enough time to access the information centre. While Clarke was a regular user of the information centre, he said *"I had to stop after a while doing it as much as I was doing it because what I was finding was I wasn't getting enough time to read and absorb the one's* [articles and texts] *that I had got"*. Craig said *"I don't really use the library that much. I'd like to, I'd like to keep on top of that sort of stuff but you just don't have time"*. Craig then went on to say something very interesting regarding this previous statement. He said, *"time* [stops me from engaging with the information centre]. *Which isn't really an excuse. If I put it as a priority I would do it and I should put it as a priority"*. The important point here is that it seems as though if coaches are looking to develop their practice, and they feel a source is of value, then they will choose to prioritise it in their work.

Centre of Excellence

The Centre of Excellence for Applied Sport Science Research (CoE) is a unit of the QAS that might be thought of as the research division of the organisation. A strong theme regarding the CoE was prevalent amongst the coaches and was articulated best by Clarke when he said *"the Centre of Excellence. Everyone talks about the $5 million but I haven't got one thing from that five million that has improved my squad or me as a coach"*. Carl made a related comment, saying *"I think the Centre of Excellence is underutilised"*. Another issue that was identified by coaches with regard to the CoE was the delays inherent in academia. Clarke commented:

> *if there is something being done here at the Academy then I don't want to wait fucking 12 months to find out what the secret is … I want to know*

now so when it is published in 12 months time we can say, 'well we have been doing that for 12 months'.

There were, however, some more immediate benefits that some coaches identified regarding the CoE. Carl noted that for him, it was direct contact with a CoE member that had provided learning opportunities. This conversational theme was also discussed by Aidan when he indicated that establishing relationships with sport scientists and members of the CoE might allow meaningful learning to occur: *"if someone has a particular interest, it might provoke a bit more thought"*. In relation to this current project, Clarke said,

I know at the end of it I will get something out of it because it will force me to think about things in a different manner. It will force me to confront thoughts and provoke questions in my own head which is good.

So it appears as though some coaches were able to currently access CoE staff and resources, while others were yet to enjoy any perceived benefit from its existence. Given the nature of research, and the relatively brief period of time in which the CoE has been operating, this is not entirely surprising.

QAS Courses

Regarding the QAS derived courses, a number of administrators had fairly firm views on the scope of such offerings. Aaron said *"I know that we need a syllabus for strength, I know that we need a syllabus for physical, we need a syllabus for psych, and I know we need one for management"*. As was discussed in the tertiary study section of this chapter, there had previously been a diploma of business management course, which was provided by an external institution but was paid for by the QAS. There had also been a strength and conditioning course offered through the QAS. Alastair went on

to say that *"we still have to do a psychological one* [QAS course] *which I think is important"*. The strength and conditioning course was framed as a series of Long Term Athlete Development (LTAD) workshops. The reason that administrators gave for the provision of this course and the generally compulsory nature of it was that coaches were *"abdicating away from their responsibilities to the areas of strength and conditioning"* (Ashley). Alastair made a comment regarding what he hoped the coaches got out of it: *"I am hoping that they get the skills to understand the fundamentals of strength and conditioning"*. It is somewhat surprising that foundational skills in strength and conditioning would be a concern for an academy unashamedly focused on elite performance.

In a similar vein, Carl questioned the utility of the strength and conditioning course given its focus on basic principles, the sport program focus on elite performance, and the employment of full-time strength and conditioning coaches at the QAS. He said *"we've got strength and conditioning coaches and the higher priority there for me is the athletes being in the gym that need quality coaching not just some supervision"*. This claim has some merit in that the international level performers require highly qualified specialists to design and supervise aspects of their programs. Part of this issue stems from role ambiguity for the coaches and relates to how the coaches view the strength and conditioning staff, and indeed a range of paraprofessionals (such as sport psychologists, nutritionists and the like). It is possible that some coaches view these individuals as fulfilling tasks beyond the scope of their own coaching work. Alternatively, some coaches may view these people as partners and support for the delivery of their program. These two views will lead to very different modes of operation and will certainly have differences in where responsibility and accountability for performance rest.

As might be expected, it was not simply the content which comprised the materials of learning in the strength and conditioning course as indicated by Calvin's comment:

> *things like that when you are getting together with the other coaches and you are actually kind of in an informal situation but a learning situation, um, and you're interacting with them, I find it just really improves your feeling about the place.*

More broadly, he went on to suggest that the same happens no matter whether it is in meetings or at workshops. Whenever coaches or sport professionals get together they are likely to discuss a variety of issues, including coaching work.

Related to the notion of recognition, which will be discussed later in this thesis, is the way in which coach involvement in the QAS courses was recognised. Chris equated the lack of assessment of the course as being tantamount to a lack of closure. The solution he subsequently offered was *"why couldn't we who had been through it been given a QAS accreditation in 'the fundamentals of long term athlete development one' or whatever?"*. The premise of this argument was that the QAS should take pride in the fact that it is educating its coaches to a world class standard. Chris went on to say *"it shouldn't be 'oh it is just an in-house thing' no, this is the bloody, this is the pinnacle, this is the cutting edge of sport coaching in Australia, in the world"*. While not as animated in his discussion, administrator Alastair said that recognition of QAS-designed and delivered courses was an ultimate goal of the organisation.

In addition to these more formal and often compulsory courses, the coaches mentioned a range of other seminars and presentations that the QAS had conducted. The examples that coaches gave were sport psychologists, nutritionists, and other coaches who attended a meeting with all available QAS coaches and presented on a

topic of some description. Regarding these sessions Charlie said *"be it nutrition or psych or training or just someone talking about a particular sport. I enjoy those opportunities, and to just go along and listen to different ideas"*. Calvin agreed that these sessions were useful and he said that the presentations, *"get you thinking outside what your normal line of thinking is"*. From the comments of longer serving coaches, it appeared as though the QAS had become poorer at making the coaches aware of what was available. The following comment from Charlie captures the sentiment of a number of coaches: *"early on there were quite good little things that used to crop up that you could go to that don't seem to happen quite as much now"*. While it is somewhat unclear as to why these forums actually ceased, it was intimated that similar to the coach component of the team briefings, the administrators were unsure of what the coaches wanted. Calvin suggested that,

> *maybe they* [the QAS] *could think about or have a look at what is happening out in other parts of the world as far as coach development goes and get some ideas or make up their own ideas, of what sort of presenters and seminars and everything that could be run here.*

Carl undertook a course that was offered through the department of sport and recreation but he explained that his involvement was largely serendipitous. In retelling his experience he said, *"I only fell over it by mistake because I got sent an email from the Department and I went, 'oh* [I'd like to do that]*'"*. Craig also lamented that he would probably attend more department-offered courses but he was simply not aware of what was available and when. He explained the situation by saying *"I wouldn't probably attend all of them but again, if I knew which was out there and they* [Sport Programs Managers] *said 'look we recommend this course' I would probably put my hand up"*. It seems that some administrators had already made decisions regarding the

utility of such courses as Carl said he was told *"these courses go on every year but most of them aren't worth doing'"*.

Administrative Staff

One group of people that QAS coaches have access to through their coaching work are the administrative staff at the QAS. In this context, the term administrative staff refers both to the staff within the Business Services Unit (BSU), and also the coaching support officers within Sports Programs (SP). Staff members within the BSU include finance officers, promotions and marketing staff, and also staff responsible for tasks such as facility management. Regarding Sports Programs, the coaching support officers are responsible for a range of tasks as required by the coach, such as purchasing equipment, organising travel and booking accommodation.

Alastair said that for learning associated with administrative tasks, coaches *"need to look at the expertise that we have in the organisation in terms of administration and in terms of financial management"*. Aidan supported this by saying *"if they* [coaches] *are weak in that area* [completing paperwork] *there is always support up there and there has been training and things like that"*. This is in keeping with Billett's (2001a, 2001b) descriptions of guidance by others in the workplace. In this case, these administrators are able to help the coaches secure knowledge that they would otherwise not learn alone (Billett, 2001a). Pointing to people as well as workplace artefacts, Aaron said *"there is a template, there is assistance, there is guidance* [for administrative tasks]*"*. Aaron's comments also reflect the notion of indirect guidance afforded by the workplace (Billett, 2001b). Here indirect guidance is provided by the physical environment in the form of workplace artefacts, in this case, templates and proformas.

Charlie remarked that while there was good assistance available within the administrative staff, the interactions and subsequent learning was often as a result of a mistake or oversight he had made. Regarding how it might happen, he said *"there would be times when* [I hadn't done] *simple little things.* [They'd say] ... *'why haven't you done this?' and my answer was 'well, I didn't know I had to do this'"*. This somewhat forces the interaction but whether the coach simply fixes the problem or learns from the error or incident will still be determined by the coach's agency. Clarke recognised the administrative staff as a source of learning and interestingly he related the potential to learn to the coach's ability and willingness to build relationships with those members of staff. Alastair also suggested that the coaches may need to be proactive in the establishment of learning relationships. This indicates strongly, the perceived contribution of personal agency whereby a potential source of learning will not be accessed if not for the individual coaches' willingness to act.

There were some barriers to learning from the administrative staff that the QAS coaches identified. Calvin noted that those members of staff more closely represent the stereotypical public servant. Similarly, Carl commented:

> [there] *seem to be a few too many public servant type attitudes* [at the QAS]*, 'I'll just do my nine to five and I'll have my week off between Christmas and New Year because that's what the government's doing', when it's not in the best interests of the sport.*

This is a significant point that these two coaches make. The fact that the administrative staff members worked a standard working week (generally Monday to Friday between the hours of 8am and 4pm) and the coaching staff were far less standard in their hours of work (often working weekends, early mornings and evenings), there was logistically less time to interact professionally.

Charlie also described a problem he encountered when he was first appointed as a QAS coach: *"everyone has their own lingo, and it is all normal to me now ... but it is all new and a bit off putting initially"*. This transition might be equated to moving from being a more peripheral to more central participant in the QAS community. In this instance it provided an initial barrier to learning from some others within the QAS but by learning and sharing the language, this has perhaps become something, which has helped foster subsequent learning.

Similar to the discussion at the end of the section on athletes as a source for learning, Aaron noted that an admission by a coach that they do not know something can be personally threatening. He gave an example from the perspective of a coach regarding being unable to complete the budget:

> *Why am I going to go around and talk to someone in finance to tell them that I am an absolute dill? ... I'm not going to say that because then that word gets back to* [the boss] *who says 'oh you are a dill we don't want you'*. (Aaron)

So while this was a fear that had previously been discussed by coaches, at least one administrator had identified it as a significant issue also. Given the problems associated with accessing knowledgeable others within other AIAs or international sporting organisations, and this potential fear of accessing those within the QAS, the sources that QAS coaches can access are significantly narrowed.

Sport Consultant

The QAS employed a consultant for a short period of time during 2005. While the specifics of his functioning were somewhat unclear to the coaches, they nevertheless saw him as a source of learning directly and indirectly. With regard to the functions the

consultant performed Charlie noted that *"what* [the consultant] *was meant to be doing got blurred or lost during the course of what was happening. He was theoretically going to be involved in that professional development side"*. This alludes to the consultant's indirect influence on coach learning. For some coaches he was accessed as someone who could provide a different perspective regarding the identification of professional development needs. One of the administrators saw this as a beneficial task that he performed saying, *"*[the reason the consultant was] *successful was because he was sort of an outside consultant with specialist skills"* (Andrew). The significant issue here is that the consultant was an external party. Taking this a little further, it is possible that this consultant was highly valued because the coaches could reveal areas of weakness without the fear of being exposed to superiors or those responsible for their employment. In terms of direct impact on coach development, Carl said of the consultant *"*[his] *time here was great because you could bounce stuff off him and his experience through his sport"*. So according to two of the coaches and one administrator, the advantage of having this individual involved with the coaches was that firstly, he was able to aid coaches directly and indirectly because of his specialist skills in the sporting domain, and that secondly he was less threatening to the coaches meaning that they may have been more inclined to reveal areas of potential weakness.

Sport Programs Managers

At the time of the face-to-face questionnaires, there were two Sport Programs Managers employed at the QAS. After the commencement of the semi-structured interviews, and prior to their completion, a third Sport Programs Manager was added to the organisational structure. The organisational structure, and in particular, the addition of this third Sport Programs Manager was discussed by the participants. Two coaches

questioned the effectiveness of the structure, asking whether the new Sport Programs Manager position added anything to the organisation and commenting that the structure appeared to be top-heavy. In any case, the Sport Programs Managers were identified as a source of coach learning with particular attention directed towards their position, management styles and other associated issues.

The part the administrators play in minimizing and streamlining governmental processes for the coaches was discussed in relation to coaches' work in a previous chapter. As a result, this aspect of the Sport programs Managers' work will not be discussed again here. Instead, this section will more deal more specifically with the ideally collaborative relationship that the Sport Programs Managers should have with the coaches referred to by Alastair when he said *"*[the Sport Programs Managers] *are there to really help them* [coaches] *and help them with leading and managing and being a sounding board as well"*.

Sport Programs Managers and Coach Development

It should be noted that few coaches cited the Sport Programs Managers as a direct source of their learning. It is clear though, that the Sport Programs Managers were indirectly responsible for a range of potential development opportunities through providing funding, or approval to attend various activities. Regarding these kinds of opportunities, there was the suggestion from a range of coaches that there had been valuable learning opportunities provided in the past that had not been continued. In somewhat of a contrast, Charlie suggested that in some respects the situation had improved: *"It is better now than it used to be … I like the fact that the QAS have been pretty proactive in wanting to assist the coaches with further education"*. Calvin

acknowledged that the diverse range of coaches present at the QAS presented problems for administrators selecting learning opportunities:

> *I didn't have a problem with what they have provided* [previously] *because I feel that they have always had a difficult time catering for everyone … so I understand that not everything that is put on is going to be relevant for me.*

There was some conjecture regarding the perceived congruence between what the administrators felt were worthwhile activities to develop the QAS coaches and what the coaches viewed as being important. Charlie said, *"there might be things that I want to be involved in and the Program Manager might think 'I wonder why he wants to be involved in that?'"*. Another coach was of the opinion that some suggestions were not taken at face value by administrators and that there may be pre-existing agendas. Aaron conceded that there may be differences between coach and administrator views regarding appropriate development opportunities but suggested that it was as a result of different personal histories. He said, *"we are going to be different because I am going to think through my filters"*.

In contrast, Aidan stated, *"I don't think there is too much disparity* [between what coaches and administrators view as worthwhile learning activities]*"*. His justification was that if the coach was able to present a good case regarding why a particular opportunity was worthwhile, that there would not be any difference. A range of other administrators supported this view with Alastair's comment summarising their position: *"coaches will have to demonstrate that this is a really good learning thing for them and we would support it if we thought there was a benefit as well"*. Charlie too, suggested that the QAS administrators were fairly reasonable in this regard saying, *"I*

was asked 'what would I see as being something that would help me develop professionally?'".

The thing that Charlie highlighted was what he identified as a more recent emphasis on assisting coaches on a one-on-one, individualised basis. From the perspective of the administrators, it was felt that there had been a range of opportunities provided but coaches had not always taken advantage of them. Regarding this, Ashley said, *"it's really frustrating for anyone at the management level that we offer opportunities for professional development for coaches but it's not up to the Managers to go and force down the coach's throat"*. Other administrators noted that in general, there were ample opportunities for coaches to develop themselves and in a number of instances the coaches were consulted regarding the format or orientation of the opportunities.

Despite these efforts, it was in this respect that a number of coaches believed the Sport Programs Managers could have a greater impact. Carl quite broadly stated, *"it just seems like the more you want to try and do, the more hurdles get put in front of you"*. Chris noted that in his experience, the Sport Programs Managers had not been proactive in their actions to help him improve his coaching. Craig was quite adamant when he stated, *"they're managers of coaches, their role is to provide us with opportunities to better ourselves ... well then there is none of that, none"*. Comments at a different stage of Craig's interview indicated that he believed that in addition to asking for coaching input, that Sport Programs Managers should be actively sourcing different learning opportunities for the coaches. Similarly, both Calvin and Andrew suggested that the QAS more broadly, could improve their methods of identification and dissemination of learning opportunities for coaches. Alastair said, *"we need to ensure that we effectively point them* [the QAS coaches] *in the right direction"*. There

appeared to be a need for the QAS to develop some kind of mechanism to provide a regularly updated range of easily attainable opportunities for its coaches. Alan even suggested that the Sport Programs Managers should be responsible for challenging the coaches to identify what he referred to as their 'mentor'.

Whether or not the variety of learning situations should be made compulsory was also discussed by coaches and administrators. One coach was quite adamant saying *"there should be mandatory professional development every year"* (Clarke). He went on to explain that the form that this professional development would take should be negotiated and largely determined by the relevant coach. Alastair indicated that a mixture of opportunities would be the most likely scenario for the future of the QAS:

> *there are some things that will be compulsory* [like the strength and conditioning course] *and then some other opportunities that they can take advantage of and if they don't take advantage of it then that's fine, that's not a problem*.

A critical factor involved in Communities of Practice models of learning is the voluntary membership of participants (Hildreth & Kimble, 2004; Lave & Wenger, 1991; Wenger, McDermott, & Snyder, 2002). The voluntary nature of participation is also highlighted through discussions of personal agency in Billett's (2006b) notion of relational interdependence. For this reason voluntary involvement should underpin all professional development initiatives considered by the QAS.

Sport Programs Managers Don't Understand

A significant issue that was specifically discussed by five of the six coaches interviewed involved the level of understanding that the Sport Programs Managers had of each sport program. One coach said, *"sometimes the understanding of what you do*

in my sport isn't quite there". Another said *"*[the] *Sport Programs Manager struggles to understand where my sport fits in"*. This perceived lack of understanding obviously impacted in various ways and to various extents on the personal agency of the individuals concerned. It also had the potential to extend to the affordances that were and were not provided by the Sport Programs Managers. Another coach indicated this point when he said, *"*[the Sport Programs Manager] *has no idea what I need. He doesn't understand* [my category of] *sport"*. It should be noted that this perceived lack of understanding was not restricted to the Sport Programs Managers. Clarke, quite reasonably pointed out that he is obviously more qualified to understand his sport than other members of the QAS administration saying, *"*[the QAS administrators] *don't interfere because what do they know about coaching my sport?"*. It is, however, significant that almost all of the coaches interviewed felt that those who are largely responsible for the evaluation of their work (the Sport Programs Managers) do not understand what it is that they do.

One of the administrators said, *"it is important for those Managers to get out into the venues and into the training sessions … to actually see what is going on so we can empathise with the coaches in terms of you know, their work"*. This certainly appears to be a worthwhile suggestion given the previously noted impact that the Sport Programs Managers can have on the learning of the QAS coaches. Given the emphasis in this thesis on the individual's contribution to the learning that does and does not occur, and also the contention that workplaces are highly contested, complex environments, it should be acknowledged that the above suggestion is not without problems.

Sport Programs Managers and Surveillance of Coaches

One such problem is related to the issue of perceived surveillance. This section obviously has links to notions of accountability, as detailed in the section on coaches' work, and there is also a related discussion involving the organisation of the coaches' workstations and coach flexibility later in this thesis. While these discussions will not be duplicated here, it is important to establish the links at this time. The main issue is the problematic nature of the Sport Programs Managers performing the potentially dual tasks of supporting coach learning and evaluating coach performance. Regarding the impact of Sport Programs Managers on the learning of QAS coaches, Alastair noted that *"*[the purpose of the Sport Programs Managers is] *not to be the big stick but to help them* [the coaches]*"*. He went on to say, *"sometimes that is difficult because it is still a reporting relationship"*. Ashley noted, *"some coaches love it when you ask them questions but others you can almost hear their teeth grating about 'well what do you ... want to know that for?'"*. Calvin's comment provides some reasoning behind this attitude of some coaches: *"sometimes ... you feel like you are being checked up on rather than being encouraged"*. Clarke too, made a similar comment regarding the QAS administrators by saying, *"they are ... big brother watching"*.

Summary Regarding Sport Programs Managers

There is a role for the QAS Sport Programs Managers in the learning of the coaches. Clarke made this point by saying, *"*[the QAS administrators] *should be trying to skill me up to the next level of coaching"*. There are some significant issues that currently limit the potential of this relationship, mainly centring on the issues of evaluation and surveillance. The review of coach performance or learning generally involved the coaches being asked to make others aware, or being made aware

themselves of their deficiencies with learning activities being subsequently suggested to fill the holes. When viewed in this way, the coach may be viewed essentially in terms of what they are yet to accumulate and the need for further learning is seen as an indicator of deficiency. For this reason, aspects of learning, which are likely to be ego and/or career threatening, may be extremely difficult to discuss with the Sport Programs Managers.

QAS Sport Psychologists

QAS-associated sport psychologists were cited as a source of learning for QAS coaches. In particular, Calvin described the learning that occurred through both formal workshops and also informal discussions:

> *A QAS sports psychologist ran a series of workshops a few years back and they were excellent. They talked about competition, preparation, mental preparation and oh just everything, athlete burn out, coach burn out and everything.* (Calvin)

Regarding the informal discussions he said *"interacting with the QAS sports psychologist informally has been useful as well. I might just run into the psych or see the psych at a workshop or something like that … that's something that I have used a lot"*. In a review of sport psychology resources, a sport psychology consultant with the QAS noted the current absence of formalised coach education projects, and reliance on individual meetings or group forums to foster learning around sport psychology matters (Lloyd, 2006). While the open-forum style of interaction had its advantages, a noted limitation was the limited time availability of coaches and the need to compete with other sport science disciplines.

Regarding coach interactions with the QAS sport psychologists, one of the administrators said, *"there are some that seem to use psychology more than others"* (Aidan). This is not surprising given a number of factors. First, access to support services such as sport psychologists are assigned based on a tiering system at the QAS. For this reason, some coaches, particularly those in developmental programs, may have very limited access to sport psychologists. Second, the majority of the coaches currently employed by the QAS did not have access to sport psychologists prior to being appointed to QAS positions. As such, it is possible that their understanding of the contributions that sport psychologists can have may be limited therefore leading the coaches to devalue them as a source of learning. Finally, it may be that some coaches feel threatened by sport psychologists particularly if they are not familiar with the contributions they can make. While this was not specifically identified by the sport psychology consultant, one of the recommendations he made was that sport psychologists were most effective when they provided subtle but practical methods and approached the sport with an understanding of the athletes and environment (Lloyd, 2006).

QAS Sport Scientists

As with the other sources, personal agency influenced whether QAS sport scientists were a significant source of learning. Regarding this, Aidan noted *"there are some* [coaches] *that have embraced sport science and probably biomechanics a bit more"*. Alastair made a more definitive claim, stating, *"in terms of learning, it is the relationship that they develop with that sport scientist and the collaboration that they have between those two"*.

This relationship may in fact be determined by the manner in which the coaches incorporate sport science support into their programs. Cavalheiro and colleagues (2005) refer to a range of models of incorporating sport science information into the preparation of athletes. Regardless of the proposed strengths and weaknesses of each model, it is clear that the extent to which QAS coaches will be able to learn from sport scientists will be largely determined by direct access (as determined by the organisation) and the personal agency of those individuals involved.

What was Gained From QAS Sport Scientists

In the most basic form, sport scientists are used by QAS coaches as another source of information regarding aspects of their program. Aaron said *"I think all the science ... is doing is measuring what the coaches used to say was their eye"*. Calvin also said *"it is has always been helpful to get objective feedback from them* [the sports scientists] *... little bits and pieces of information and sort of like, put it together"*. This type of learning may well be important, but it is more likely to lead to reinforcement of practice through the provision of confirmatory evidence, than lead to innovative practice. Something which is more likely to lead to new learning was alluded to by Ashley's comments. From his perspective as an administrator, he said *"if you just look at the information* [sports scientists provide] *that's fine, but if you don't solicit their understanding and evaluation of what they're seeing ... you aren't doing a good service to the athlete"*. The implication is that by discussing the information with the paraprofessionals who collected it, a deeper understanding will be gained.

Barriers to Learning From QAS Sport Scientists

At the organisational level, the tiering of sports has a large impact regarding the possibility of learning from QAS sport scientists. Alastair made this point by saying, *"you have to differentiate between development sports and international sports because they have much more access to a sport scientist than the development sports do"*. This might be thought of as an organisational affordance that impacts heavily on the learning that is possible. For developmental sport programs, the access is somewhat limited. Chris explained the problem by saying,

> *having been a low profile, low priority program you didn't get much service so you did what you could by yourself and never really learned to utilise that and I am still not really sure to what level it is available.*

Associated with tiering are the costs involved in accessing sport scientists. For those coaches who wish to have sport scientists attend major competitions or training sessions, there are costs which must be covered by the particular program. Carl indicated that costs were a factor when he was determining sport science involvement in his program: *"there's always costs involved … for field testing. Yeah you do have to travel"*. Obviously this will have an impact on whether this is potentially a source for his learning.

Even for the coaches who are responsible for higher priority programs, there were frustrations involved. Craig explained that he believed there may even be some kind of ranking within tiers such that not all programs on the same tier were equal. He also indicated that he believed that even if there was no specific ranking, that the allocation of time was influenced by the choice of the particular sport scientist, with some choosing other sports ahead of his. With respect to the coaches, Aidan made the point that some coaches access the sport scientists more than others. He then went on to

explain that possible reasons for this were, *"fear of not knowing or understanding …* [or] *they think they already have that knowledge and they don't need it"*.

Finally, while it was mentioned by a range of coaches and administrators, Andrew summarised another issue that was present at the QAS by saying,

> *there really is a feeling within this organisation that there's upstairs and there's downstairs … The coaches are part of upstairs, which is where the CoE is and senior management and the info centre, and downstairs is the athletes and coach support group … we're talking about a physical and a mental barrier.*

Craig reinforced the notion that it was more than a physical separation saying, *"people talk about upstairs downstairs, I think that is all in their head. If they want to communicate, they will … to be honest I think that comes from the sport science department"*. Regardless of the source of this tension, the mere discussion of this issue emphasised the contested nature of the QAS workplace. If collaboration and innovation are the aims then it is clear that as Andrew put it, *"those sort of splits* [between upstairs and downstairs] *have to be addressed if this place is ever going to be a true learning organisation*"*.

Strength and Conditioning Coaches

Craig indicated that the strength and conditioning coaches helped him to develop technical ideas for the preparation of athletes. Chris identified more diverse contributions including how to communicate more effectively with his athletes. Calvin was less convinced regarding the influence of strength and conditioning staff: *"I have been influenced by what they* [the QAS strength and conditioning staff] *have done but have come to my own conclusion about what athletes in my sport should do"*. This

comment suggests that it is important to consider the specificity to the sport. Carl continued this theme of the need for sport specific understanding: *"our strength and conditioning person, I don't believe has those qualifications from the sport-specific high performance level"*. Craig also noted the need for this understanding, explaining that the learning relationship should be extended both ways. So while the tiering of programs at the QAS affect what is afforded to the QAS coaches, there seemed to be other issues that had a greater impact on their engagement.

Other QAS Coaches

Virtually all participants acknowledged the utility of other QAS coaches as a source of learning but most often it was with regard to the potential for learning with a number noting that it was underutilised as a source. Having identified this as a source of his development Clarke went on to say, *"one of the best things about this place ... is the number of people from different backgrounds in different sports where the knowledge is phenomenal"*. Speaking more specifically, Calvin suggested, *"it is good to talk to the other coaches ... so you can have a chat and swap notes, swap frustrations or whatever"*. In this context, the QAS coaches might be considered to be a distinct (albeit poorly functioning) community of practice in that it is a group who together contribute to shared and public practices in a particular sphere of life (Boud & Garrick, 1999a; Kirk & Macdonald, 1998; Lave & Wenger, 1991). The relationships between the coaches are often more familial than those characterised by networks of practice* (Trudel & Gilbert, 2006) and informal knowledge networks* (Allee, 2000) (as will be discussed in the next chapter).

Specific meetings organised by a member of the coaching group were a subset of this source identified by coaches and administrators. One of the administrators

explained his understanding of the meetings by saying, *"there's a monthly coaches' meeting where they can just come and throw around ideas in an informal setting which is invaluable"*. Despite the almost unanimous agreement that the meetings were of benefit, there was the suggestion that participation in them was problematic. So despite the fact that Charlie acknowledged the meetings as being potentially beneficial he said, *"I never get to them ... Friday is the worst day for that sort of thing"*. Calvin also lamented the lack of attendance at the meetings saying, *"the trouble is that not that many coaches go and they could be really good and you always learn something when you get together with a bunch of coaches"*.

What was Gained From Other QAS Coaches

Alastair said that when coaches across sports interact *"a lot of things won't be relevant from a sport to sport perspective but there are some things that will translate as well"*. Craig suggested that there were at least two things that he was able to gain from interacting with different QAS coaches: *"one, technical, two ... athlete management. I mean they're sometimes in a similar situation"*. Another coach stated he had specific interest in the physiological traits of different sports and how the coaches developed various capacities in their sports. It is understandable that he only referred to two other coaches as he felt the sports they coached were somewhat similar (i.e., individual, performance-type sports).

Related to the second component of Craig's quote was an aspect, which was mentioned by a fair number of coaches and administrators; the utility of accessing other QAS coaches with regard to problems. Alastair said, *"one* [thing they get from their QAS coaching peers] *is probably empathy in terms of ... dealing with problems"*. Calvin gave a specific example saying,

> [when speaking with another QAS coach they might give me] *an account of a problem with an athlete … not fitting into the team or something like that and we might talk about some of the things they have done to help that person integrate into the team.*

Part of the benefit of sharing problems and developing solutions in consultation with other QAS coaches appears to have a strong connection to what Alastair alluded to when he said, *"one key thing with their peers is knowing that they are not isolated"*. As mentioned previously, coaching can be an extremely isolated experience. By having others in a similar situation, undergoing similar problems, this feeling of isolation may be reduced.

Coaches also reported that it was possible to develop higher level thinking skills or new directions in thought from interacting with other coaches. Initially, other coaches may be used as a sounding board with Charlie noting that he liked, *"bouncing ideas off your peers"*. The administrators noted that innovation may be an outcome. Andrew summarised this by saying, *"maybe if they're lucky,* [the coaches will achieve] *some opening of new ideas in their minds or new thought processes"*. Alan supported this saying, *"when they have the opportunity to talk and to network with other coaches, they then start thinking more laterally and can use other sports to help improve their knowledge of their own sport"*. This has been noted as a potential outcome of communities of practice in that they have been said to be able to generate and oversee innovative competencies allowing continual advancement of the field (Wenger, 1998; Wenger & Snyder, 2000). The concession was made by Alastair that for these benefits to occur the coaches must be *"open and honest enough with each other"*. As indicated previously, to establish relationships that are open and honest in high performance sport

settings may require lengthy periods of time and also some kind of shift in the culture of an organisation.

Benefits of Accessing Other QAS Coaches

As a specific source of learning, interacting with other QAS coaches had some unique advantages. As noted previously, the QAS coaches are in a unique employment position, and therefore, with the possible exception of coaches employed in other AIAs, only other QAS coaches are in similar positions. The point to be made is that only QAS coaching peers are able to understand the difficulty and nuances of the tasks they perform. For chiefly this reason, it was proposed that there is a high credibility regarding this source of learning. Aidan raised this point when comparing this source with formal education: *"I think coaches seem less cynical about learning from other coaches than perhaps a course, a formal course"*. Another point to be made comes from the communities of practice literature, which suggests that praise and advice from other community members may be the most meaningful because of the high levels of empathy possible between workers in similar situations (McDermott, 2000).

It would be naïve to suggest that this source is non-threatening, because being seen to be knowledgeable within the peer coaching group is likely to be very important. Despite this though, two of the administrators specifically identified this source as being less threatening than approaching the Sport Programs Managers regarding a range of issues. Aidan said, *"if they don't know how to do something and they don't want to ask a* [Sport Programs Manager] *to be seen as being weak, I mean they can just pick up a phone and ask one of their fellow coaches"*. Alastair also said, *"sometimes they* [coaches] *are not willing to talk to the Managers ... for some things, so I think they need to get it from other coaches"*. Again, it is possible that this fear stems from the highly

volatile, performance and evaluation driven environment that has been established at the QAS.

Problems With Other QAS Coaches as a Source of Learning

As with other sources, learning from other QAS coaches is not without its difficulties. One such problem revolves around the working habits of other coaches. Craig noted that, *"if they* [other coaches] *were here* [at the QAS facility] *more, it would be a lot easier* [to benefit from informal interactions]*"*. The reality of coaching work is that it is not located in one physical area. Charlie is one coach whose equipment, training and competition facilities are located well away from the QAS office. The problems with not being at the QAS office regularly was not lost on him as indicated by this comment, *"the downside ... is that you don't have a lot of interaction with other coaches if you are never there"*. Calvin suggested an alternative reason as to why there is less interaction between QAS coaches than there otherwise might be, *"maybe it is the environment* [that stops coaches interacting more] *... maybe that has meant that the coaches haven't really come in as much"*. While the effect of the new QAS office environment will be discussed later in this chapter, the fact that coaches have identified aspects of their surroundings as a barrier to learning through interactions is significant.

There was also the suggestion that with the massive funding and personnel increases seen at the QAS since its inception, there have been fewer interactions. Calvin makes this point by saying, *"maybe it has grown a little bit big for that* [regular coach interaction] *and there's a lot of new staff and so people don't know each other as well as they used to"*. Alastair suggested that it may be more as a result of the personal characteristics of the coaches saying, *"some coaches are fairly closed"*. This may well be related to the ego-threatening nature of sharing with other coaches and may be a

function of there being a great number of new QAS coaches, yet to establish the high levels of trust required for deep sharing and critiquing associated with meaningful learning. Finally, one of the administrators noted that peer interactions, although acknowledged to be of great value at the elite level, are often ignored because they are much harder to encourage and facilitate than it is to run a course or organise a meeting.

Discussion of Other QAS Coaches as a Source of Learning

So while there were significant benefits to engaging with QAS coaching peers, this source was not accessed to its potential. Summarising this position, Alastair said *"I would like them to access coach peers more"*. The barriers identified were certainly not insurmountable and there are individual and organisational changes that could be made to help foster the possible learning from this source. The overall sense I gained was that learning through this source relied on the initial establishment of relationships with QAS coaching peers. Calvin said, *"if you know the other staff here better and the other coaches better, you are more inclined to use some time here interacting with the other coaches"*. The other important factor emphasised in the interviews was that engagement must be voluntary. As advocated by researchers examining CoPs, to function closer to optimal levels, they should be entirely self-selecting and participation should be completely voluntary (Allee, 2000; Wenger, 2004; Wenger et al., 2002). Ashley echoed these sentiments when he said, *"that sort of learning* [other QAS coaches] *has still got to be a want to do, it can't be something that's a 'forced on' situation"*.

Summary of QAS Affordances

The affordances made by the QAS were wide ranging but their perceived contribution to coach development was highly variable. As with the sources of learning that were largely outside of the influence of the QAS, the sources of learning discussed above have been designated as either 'primary', 'secondary' or 'minor' with respect to the overall contributions they made to the development of the coaches as an entire cohort (Table 3). One QAS affordance that could be considered to be a primary source of learning for the coaches was the generic offerings including internet and telephone access as well as the provision of fulltime work. In addition, other members of staff including other QAS coaches and a range of support staff such as sport scientists, psychologists and strength and conditioners could also be considered to be a primary source of learning. While it is possible that CoE staff members may be similarly valued in the future, it is not feasible to pass judgement on their contributions to coach learning given the timing of the research. While the Sport Programs Managers were not identified as a direct source of learning, it was widely recognised that they were indirectly responsible for the learning that was possible for the QAS coaches. As such, their influence on the learning of the QAS coaches might be considered to be primary. Other sources were considered to be secondary if they had not been widely accessed or were thought to be of less significance to coach development, or both. Secondary sources included the information centre and the QAS provided courses. The remaining sources that were identified might be considered to be minor and these included the QAS induction and team briefings. A range of other significant factors impacted on the provision of affordances (and personal agency) including the operationalisation and working climate of the QAS, the physical environment, the high turnover of coaches

and additional barriers for women coaches. These aspects will be discussed in some detail in the next chapter.

The great majority of the identified contributors to coach learning were components of the everyday work environment. However, when considering the learning of QAS coaches in the future, the administrators and coaches tended to revert to emphasising 'special events' such as the involvement of guest speakers, and attendance at seminars, workshops and generally formalised courses. This may certainly reflect the dominant managerial and educational practices in society but given their previous contributions the focus should be on the ways in which everyday work activities can best be structured to promote learning. This is especially important given the financial and workload constraints previously described in this thesis.

QAS Sources of Learning	
Primary sources	Generic offerings (e.g., telephone, internet, fulltime employment) Other members of staff (e.g., other QAS coaches, support staff)
Secondary sources	Information Centre QAS provided courses
Minor sources	QAS induction QAS Team Briefings

Table 3. Summary of QAS sources of learning

CHAPTER 4 THEORISING COACHES' LEARNING

This component of the dissertation will connect the previously identified tasks comprising QAS coaching work, the range of sources that QAS coaches access in learning to perform their work, and a range of other influential factors with the well established fields of learning and education. Conventional explanations of learning will be discussed and then problematised with reference made to common critiques cited by other authors. The nature of work will then be considered along with subsequent implications for learners and learning. A number of theories of learning that have shaped my understanding of the learning of QAS coaches will then be discussed, culminating in a thorough account of the theory of relational interdependence as it applies to the work and learning of the QAS coaches.

Before going on, it should be noted that while quite extensive research on learning has been conducted resulting in an abundance of theories, learning is not a particularly well understood concept (Hager, 2004). That is certainly not to say that little is known, or that the research that has led us to this point has been misguided or fruitless. It appears to me that the intricacies of human interaction and the complex process of the individual mean that it is simply not possible to have developed a central theory of learning with what is currently understood. Hager (2004) has suggested that perhaps our understanding of learning at the start of the 21st century is similar to mankind's understanding of motion at the end of the Middle Ages. He contends that at that time, understanding was limited by attempts to develop a single account of all motion, and real progress was made only when physics departed from this idea, recognising that there are many types of motion (e.g., falling, projectile, pendulum, and wave). Hager (2004) goes on to suggest that likewise, there appear to be many types of learning and things that can be learnt and that to understand these more fully,

researchers may need to engage with a range of theories, each with somewhat different assumptions. The consideration of intra- and interrelationships of theory fields are necessary for the understanding and constant development of sport science as an academic field (Haag, 1984).

Clarification of Terms

At this point it is necessary to operationalise the meanings of certain learning related concepts as a number of researchers have noted the problematic and diverse nature of particular terms (Fenwick, 2001). Data can be defined as a series of meaningless outputs from any operation. It is the symbolic representation of numbers, letters, facts or magnitudes and is the means through which information and knowledge is sorted and transferred (Ahmed, Lim, & Loh, 2002). Information is the grouping of outputs (data) and placing of them in a context that makes a valuable output or in other words, data arranged in meaningful patterns. Knowledge involves the individual combining his/her experience, skills, intuition, ideas, judgements, context, motivations and interpretation involving elements of both thinking and feeling. It can also be said that knowledge is information that changes something or somebody, either by becoming grounds for actions, or by making an individual (or an institution) capable of different or more effective action. This suggests a fundamental difference between knowledge and information in that knowledge is personal and intangible in nature, whereas information is tangible and available to anyone who cares to seek it out (Ahmed et al., 2002).

Conventional Explanations of Learning

The traditional view of learning is as a process by which a learner internalises knowledge, whether 'discovered', 'transmitted' from others, or 'experienced in interaction' with others (Lave & Wenger, 1991). Much traditional educational thought has also treated learning as either context-free or relatively independent of context (Hager, 2005). A number of reasons underpin this kind of thinking. One reason is the view that what is learnt is independent of its context with the example being discussions of propositions or skills (Hager, 2005). Another reason is that learning was previously viewed as occurring in spaces separate from where it is to be applied (Hager, 2005). These have lead to the deployment of a range of metaphors such as viewing learning as a substance or thing. In turn, 'abstract rationality' has at times, dominated theorising with learning being viewed as paradigmatically abstract propositions located in individual minds that are independent of their surrounding contexts (Hager, 2005). While some have proposed that this works best for cases such as multiplication tables, it must be acknowledged that most learning is not like this, particularly in the context of work (Hager, 2005).

As noted above, there has been in the past, a tendency to consider learning as being unproblematic (Hager, 2004). This may have something to do with the ubiquitous nature of it. The analogy that has been made in the past is that learning is like air, in that it is everywhere, enveloping and pervading our lives (Renshaw, 2002). But like air, depending where you are and who you are with, it can be odourless or fragrant, fresh or stale, poison or enliven, allow you to soar or blow you around, and individuals can draw it deeply or puff shallowly (Renshaw, 2002). The point is that although learning may be everywhere, the quality of it, and the effect it has on individuals and groups of people

may vary considerably. This study will take a critical view of learning and the processes and factors that mediate it.

Problematising Learning

The combined effect is that the traditional view of learning backgrounds the internal characteristics of the learner, the world, and the complex relationships between them, thus creating a sharp dichotomy between inside and outside (Lave & Wenger, 1991; Schempp, 1998). In this view, the learner is viewed as unproblematic and the process can be oversimplified and viewed as a matter of transmission and assimilation (Billett, 2000; Burgoyne, Pedler, & Boydell, 1994; Lave & Wenger, 1991; Watkins, 1991). This view also gave rise to the old model of static, hierarchical command where learning was viewed as the filling up of empty vessels with assumptions made regarding how best to correct skill deficits, and the transferability of skills and knowledge from classroom/training to real work (Boud & Garrick, 1999a). In addition to the view of learning as unproblematic, the other dominant view is the view of learning as a product.

The QAS may be viewed as a business workplace which operates as a government department. It uses much of the language of business (for example, Key Performance Indicators), and is subject to the reporting and accountability requirements of all other government departments. For this reason, the product-view of learning appears to fit quite well in that this research may be able to help economise the inputs and maximise the outputs of learning. However, this view does not stand up to critique on many levels.

First, at the level of the individual, the dominant view of learning has been the 'common sense' account which views the mind as a container and knowledge as a type of substance (Hager, 2004). This emphasises the notion of learning as a product and is

exemplified in the emphasis on generic skills and the standard international nomenclature of learning (for example *acquisition* of content, *transfer* of learning, *delivery* of courses, course *providers*, student *load* and the like) (Hager, 2004). This issue is summed up quite well by Hager (2004):

> *Part of the 'folk theory' of learning is an acceptance of a 'quiz show' view of what it is for someone to be learned – contrasts with Socratic view that the more you 'know' the more you know that you don't know* (p. 9)

This view is premised on two assumptions; stability and replicability (Hager, 2004). The stability assumption necessitates that the products of learning are relatively stable over time meaning that learning can be incorporated into curricula and texts, and its attainment can be measured in exams, the results of which can be compared across contexts (Hager, 2004). The replicability assumption means that the learning of different learners is identical (Hager, 2004). Both of these assumptions are flawed in a number of respects and as a result, there are a number of difficulties that arise from viewing learning as a product.

A starting point for much research, premised on the product view, has been investigations and discussions regarding propositional knowledge. Indeed doubts have been raised as to whether propositional learning itself is context-free, and is therefore even a good starting point to discuss the nature of learning (Hager, 2005). There are also significant doubts whether learning can be thought to occupy context-free spaces given that learning does not reside solely in human brains, or even entire bodies, but ranges between and beyond individual learners (Hager, 2005).

A major problem with the product view of learning has been its inability to account for performance in many spheres. Two practitioners who have undergone the

same training may respond in various ways, encountering differing degrees of success when faced with actual practice. Hager (2004) suggests that the reality of practice is messier than the product view of learning would have us believe. The problem situation may also be unique or unstable, requiring the problem to be continually reframed.

The final problem that will be mentioned in this section relates to the notion of lifelong learning. This notion is quite incongruent with the product view of learning and as Hager (2004) suggests, it conjures images of an overfilled filing cabinet. It also positions novices as having less power, position, and recognition, because of their current deficit (given they have not yet had the opportunity to acquire all they need to know). This, in turn, encourages individuals to leave behind the 'learner' tag as quickly as possible (Hager, 2004).

The product view of knowledge and learning has been steadily replaced with the focus on the person as a member of a sociocultural community in which activities, tasks, functions and understandings do not exist in isolation but rather as a part of broader systems of relations (Hager, 2005; Lave & Wenger, 1991). In this way, learning can be seen as an active process by which individuals try to make sense out of information and experience with prior knowledge, including beliefs, and feelings influencing this process (Billett, 2000; National Board of Employment Education and Training, 1994).

These characteristics are not easily accessed by researchers, therefore it is necessary to probe deeply, asking the right questions, to be able to identify the contributions of the individual in the learning process. This is exemplified by calls for research that considers the socio-cultural dynamics, which shape the lives of those involved in the instructional activities of sport (Schempp, 1998). It is not a matter of acquiring abstract knowledge and procedures, rather it is a matter of learning to participate in interactions in ways that succeed over a broad range of situations (Boud &

Garrick, 1999a). The heart of this constructivist approach is an understanding that learning is a social practice (Macdonald, 2004).

This attempt to expand our attention from the learner as an 'isolated' individual to include focus on the social settings that construct and constitute the individual as a learner was termed situated learning by Lave and Wenger (1991) (Billett, 2000; Boud & Garrick, 1999a; Lave & Wenger, 1991). The 'situatedness' of learning means that learning takes place in particular sets of circumstances in time and space and may also refer to the fact that learning is social, in so far as it may involve interaction between an individual learner and others (Billett, 2000; Lave & Wenger, 1991). A significant social setting is the workplace and there exists an inextricable link between personal and professional knowledge (National Board of Employment Education and Training, 1994).

The ever evolving nature of the coaching construct means that coaching knowledge cannot be treated as if it were neutral or value free (Cushion et al., 2003). In keeping with the ideas of Lave and Wenger (1991) it must be acknowledged that coaching knowledge is constructed within a particular socio-cultural climate, serves particular interests, and carries certain values. It has been suggested that business managers need to realise that unlike information, knowledge is embedded in people, and knowledge creation occurs in the process of social interaction (Ahmed et al., 2002). High performance sports coaching can be characterised as a business and this therefore has direct relevance to program managers and directors of coaching organisations (Lyle, 2002).

If we are to accept the notions above, that indeed knowledge is constructed within a particular socio-cultural climate, serves particular interests, and carries certain values, then it must also be acknowledged that so to are the theories of learning.

Different models of learning may be privileged at certain times because they fit with economic and social conditions of the era (Renshaw, 2002). Renshaw (2002) suggests that recent sociocultural learning theory and key terms associated with it have been appropriated by the business world to promote new regimes of work and workers who embody the currently desirable characteristics of being predisposed to sharing their expertise in distributed systems, and being committed to joint projects while remaining flexible and adaptive (Renshaw, 2002). In fact, the term 'learning' carries significant weight amongst politicians and business leaders (Hager, 2004; Renshaw, 2002). For this reason, researchers should remain critically aware of the models of learning we endorse, and the underlying factors leading to these decisions. This is, in part, why this section exists; to critique and evaluate a number of proposed theories of learning in an effort to find the theory that will help answer the questions that I am asking (i.e., which will be the most appropriate lens through which to view the QAS and their coaches). It is certainly not my contention that other theories of learning could not be used, but simply that those discussed in this thesis are the ones most relevant given the scope and direction of the project.

Categorisations of Learning

With the large range of learning theories pervading the field, a number of authors have attempted to group theories to allow further comparison of both the theoretical concepts but also the research that has been framed with these various theories. To begin with, it may be useful to discuss the broad categorisations prior to giving more detail about the significant theories that have influenced my thinking. This is important to orient the reader and to begin to acknowledge the extremely busy nature of this burgeoning domain, while beginning to attempt to make some connection

between theorists and theories. It is also necessary to preface these concepts as they will be referred to in subsequent discussions. So while I acknowledge that a range of authors have made significant contributions, I will only make specific reference to those that I have already prefaced or intend to refer to in later discussions.

Sfard's Metaphors of Learning

As noted previously, the field of learning has undergone some significant conceptual upheaval. Sfard (1998) has made reference to two metaphors of learning that largely capture the field of learning in its current state of flux: the acquisition metaphor and the participation metaphor. It should be noted that this dichotomy is quite removed from the distinction between individual and social perspectives on learning, which may be present in both metaphors simultaneously (Sfard, 1998).

The acquisition metaphor has been an extremely pervasive way of viewing learning and has been the dominant view *"since the dawn of time"* (Sfard, 1998, p.5). In keeping with the previously described product view of learning, concepts associated with the acquisition metaphor are understood as basic units of knowledge that can be accumulated, and the human mind is viewed as something of a container to be filled with certain materials (Sfard, 1998). The learner is consequently viewed as the 'owner' of this somewhat permanent entity (Sfard, 1998). The action of making such entities one's own is variously referred to acquisition, construction, internalisation, appropriation, accumulation and the like, within frameworks generated by the acquisition metaphor (Sfard, 1998). This is the metaphor on which traditional large-scale coach education programs have been based (Trudel & Gilbert, 2006).

In contrast, the participation metaphor has only begun to crystallise in the past couple of decades (Sfard, 1998). Terms such as 'concept' and 'knowledge', which

imply the permanency of certain entities, have been replaced with the noun 'knowing', which indicates action and the removal of any clear 'endpoint' to learning (Sfard, 1998). In the participation metaphor, the importance of context is foregrounded and there is a corresponding change in how the learner is viewed shifting from the accumulator of private possessions to a person interested in participation in certain kinds of activities (Sfard, 1998).

A potential issue with the acquisition metaphor is that if learning is viewed as a product, and knowledge viewed as property which can be owned, it stands to reason that it is likely to been viewed as a means to additional position and power (Sfard, 1998). The participation metaphor, however, has the potential to lead to a more democratic practice of learning, quite removed from the competitive view currently emphasised in much pedagogical, assessment, employment and promotion practices. Despite these potential limitations, Sfard (1998) cautions against the abandonment of the acquisition metaphor altogether stating that the metaphors are best viewed as different perspectives rather than competing opinions (Sfard, 1998).

The point made by Sfard (1998) is that conceptual frameworks are most often neither purely acquisitional nor purely participational. According to Sfard (1998) this is not an unacceptable situation given her strong caution against complete devotion to one metaphor at the expense of the other. In fact, she goes on to state that the coexistence of these two metaphors in learning research may in fact be a desirable situation, enhancing overall rigor and answering questions not possible through the existence of only one (Sfard, 1998).

Other researchers have stated that these two metaphors do not go far enough. Hager (2004) contends that these two basic metaphors need to be expanded to include (re)construction as a third metaphor. He argues that participation itself does not ensure

learning, citing closed societies such as certain religious groups that are dedicated to resisting change (Hager, 2004). Furthermore, he states that the construction metaphor has wider scope, meaning that the construction of learning, of the learner, and of the environments in which they operate receive greater attention (Hager, 2004). As noted by Trudel and Gilbert (2006), the tension between the two metaphors has been present in coaching for many years. As has been the case in wider education, the ubiquitous nature of the acquisition metaphor has meant that there has been a tendency to maintain that learning through participation should not be taken seriously (Trudel & Gilbert, 2006). As Sfard (1998) suggested, metaphorical pluralism is something that may in fact strengthen the field of research.

Moon's Generic View of Learning

Werthner and Trudel (2006) used Moon's (1999) generic view of learning in their case study involving the analysis of the sources of information that Canadian coaches access. Moon's (1999) distinction between the 'building a brick wall' view of learning and the 'network' view of learning holds a number of similarities with the previously discussed metaphors of acquisition and participation.

Similar to the acquisition metaphor, the 'brick wall' view of learning views the instructor as the provider of 'bricks of knowledge' and the learner as an accumulator of these bricks (Moon, 1999). As with the acquisition metaphor, there are difficulties in separating the learning from instruction because according to this view, without instruction there is no learning (Werthner & Trudel, 2006). Applying this to coaching settings, coach educators are assumed to have all the 'bricks' and know how they fit together. Coaches themselves are seen as recipients of these bricks and are relatively passive throughout the learning process (Werthner & Trudel, 2006).

In the network view, learning can take place in many different ways. Like the participation metaphor, learning is seen quite differently to the simple accumulation of knowledge. Rather, it is viewed as a process of changing conceptions (Moon, 1999). For example, Werthner and Trudel (2006) proposed that coaches adapt and change under the influence of three types of learning situations: mediated, unmediated and internal. Mediated learning situations involve direction from another person such as in formal coaching courses (Werthner & Trudel, 2006). Unmediated situations involve no instructor and require the learner to take the initiative regarding what they want to learn (Werthner & Trudel, 2006). Finally, internal learning situations refer to an individual's reconsideration of existing ideas (Werthner & Trudel, 2006). According to the network metaphor, learning can take place in many different ways and the cognitive structures that result may be represented as a network of knowledge, feelings or emotions (Werthner & Trudel, 2006).

Moon's (1999) view of learning and the subsequent work by Werthner and Trudel (2006) have some relevance to the current theorisation of QAS coach learning. However, the workplace focus of this examination of QAS coaches means that other theories and theorists will form an increasing part of the subsequent discussions. It is for this reason that while I will make subsequent reference to Moon's (1999) conception of learning, it will not form a major component of this thesis.

Emergence of Workplace Learning

Having described some of the conventional explanations of learning as well as giving an account of some of the critiques of these explanations and the emerging understanding of learning, it is now appropriate to give some detail about how the workplace has become increasingly viewed as a legitimate site of meaningful learning

in post-industrial society. Much early literature on learning was based around institutions whose explicit function was education, such as schools and universities. With the massive changes in industry and the subsequent economic implications, there was a shift from research on learning 'for' work, to learning 'in' work. At times when the requirements for work are in constant change and turmoil (such as in performance sport coaching), there is a need to understand how individuals can best learn these changing requirements through work and throughout their working life (Billett, Smith, & Barker, 2005). Indeed the most likely and accessible environment to assist this learning will be workplaces themselves (Billett et al., 2005).

In the past, the temptation was to dismiss workers' claims of learning by doing and listening to others as being naïve (Billett, 1999, 2001b). In most sectors, this is no longer the case with organisations recognising that the kinds of activities that individuals engage in will determine what they learn and the kinds of guidance they access when engaged in that learning will determine the quality of that learning (Billett, 1999). In other words, it is through everyday activity in the workplace that individuals learn.

Learning is structured by the everyday activities and goals of the workplace and given the importance of work practices to the functioning of the organisation, the learning experiences and their outcomes cannot be considered to be incidental, ad hoc or informal (Billett, 1999, 2001b). Rather they should be viewed as authentic and rich opportunities to reinforce and extend individuals' knowledge (Billett, 1999). Indeed, certain workplaces may offer prospects for vocational development that would otherwise be inaccessible (Billett, 1999).

Finally, it has been argued that workplace learning is under-researched, and has the potential to bring new perspectives to research on learning because it encompasses a

wide range of more or less structured environments, which are only rarely structured with learning in mind (Eraut, 2004). In this way, there is clear merit in viewing organisations almost as living entities, which are more than the sum of their parts, and in investigating the possibilities that this frame reference offers (Matthews & Candy, 1999).

Workplace Learning Definitions

Fenwick (2001) expressed concern over the problematic nature of terminology in workplace learning literature. In particular, reference was made to previous definitions that tended to ignore important spheres of work, which were and continue to be less identifiable and geographically organised, yet involve important and meaningful work. She therefore used the term 'workplace learning' to refer to *"human change or growth that occurs primarily in activities and contexts of work, however it is defined and located"*. For the purposes of this thesis, I will adopt this definition of workplace learning. The loose nature of the definition, particularly with respect to the context and location of work, is useful when discussing the work of QAS coaches because the location and make-up are poorly understood and often ill-defined.

An aspect that attracted me to the domain of workplace learning was that the researchers were able to form a strong argument against the concept of learning as only a formal process that occurred in explicitly educational settings like schools (Billett, 2004c). Given that in most instances there have been very few formal education opportunities for coaches, and also that those offered have been highly criticised in both content and design, being able to view the workplace as a legitimate site of learning creates a unique opportunity to investigate the learning of high performance sport coaches. Finally, a further aspect that led to the adoption of this approach to research

was that the general aims of workplace learning research connected well with the overall aims of this project. The stated purposes of workplace learning include improving performance for the benefit of the organisation (of self as a worker, of the team or worker community, and of the enterprise), improving learning for the benefit of the learner (for self, and for one's personal growth and lifelong learning), and improving learning as a social investment (for citizenship, for team or work community, for future enterprises) (Boud & Garrick, 1999b).

It has also been proposed that learning in the workplace has several unique features, which in combination sets it apart from learning in other contexts. These features have been shown to be applicable to the QAS context (Rynne et al., 2006). Workplace learning is usually task focussed with different tasks and settings offering different experiences and guidance opportunities (Billett, 2001b; Boud & Garrick, 1999a; Watkins, 1991). This is certainly true of the work of QAS coaches in that sport programs are often differentially tiered, determining access to funding and other resources. For example, athletes at the QAS will be granted varying access to physiotherapy, sport scientists, and the like, based on their allocated tiering with tier one athletes receiving preferential allocation of time and resources.

In addition to this, learning in the workplace occurs in a social context characterised by status difference and the risk of one's livelihood, it is collaborative (Watkins, 1991). Program tiering has relevance here again but also given that there is most often only one head coaching position per sport, coaches may find it hard to reconcile their duty to disseminate coach education material to assistant or developing coaches, with the need to protect their privileged position.

It occurs in a political and economic context characterised by a currency of favours and pay for knowledge (Watkins, 1991). This is apt for the QAS where funding

and resource allocation is generally determined by government officials (for example, the State Government Minister for Sport). The implication is that those within these organisations must be politically savvy with the operations of the QAS being highly influenced by departmental priorities and often completely resourced at the discretion of the incumbent government.

It is also cognitively different to learning at school where the emphasis is very much on individual cognition, achievement and the development of widely usable skills, which is in contrast to workplaces where the development of situation specific competencies, collaboration and organisational success are the aims (Watkins, 1991).

Finally, it should be considered that workplaces offer to many workers, prospects for vocational development that would otherwise be denied. In fact, for some industries, the workplace is the only place in which they are likely to acquire knowledge because there are no available courses especially regarding increased specialisation, technology, or unique production requirements (Boud & Garrick, 1999b). Consequently, learning in the workplace often grows out of an experience or a problem for which there is no known discipline or knowledge base (Watkins, 1991). Given that there are only seven AIAs in Australia, and that they work largely independently of each other, the work requirements of the QAS may well be considered to be unique and distinctive. Indeed there are a range of similarities between the work of coaches and that of others involved in other sites. For example, in their 2003 study of the learning of small business operators, Billett and colleagues stated that in order to maintain their competitiveness, small businesses must respond to new practices and tasks (Billett, Ehrich, & Hernon-Tinning, 2003). Similarly, it has been argued that coaches must respond quickly to emerging problems and developing trends if they are to maintain their competitive edge (Dickson, 2001b; Woodman, 1994).

It should also be noted that workplace contributions, while not necessarily better or worse than those furnished by educational settings, are different (Boud & Garrick, 1999b). Consequently, an understanding of workplace learning means recognising its complexities, its competing interests and the personal, political and institutional influences that affect it (Boud & Garrick, 1999b).

Importance of Workplace Learning

Within the current context of rapidly changing markets, it has been suggested that the development of learners within high-tech knowledge communities is necessary (Boud & Garrick, 1999b; Wenger & Snyder, 2000). The view frequently voiced by governments, industry and commerce is that the contemporary workforce needs to be highly skilled, adaptable and flexible in response to increasing technological and social change, global competition, economic restructuring, and changes in the nature and organisation of work. These changes have meant that employees have had to adapt to new challenges with work becoming more abstract, requiring flexibility, manipulability and analysis (Casey, 1999). In short, coaches and high performance sport organisations must embrace learning if they are to compete in the global marketplace. The workplace has become a site of learning associated with two different purposes. The first purpose is the development of the enterprise through contributing to production, effectiveness and innovation while the second is the development of individuals through contributing to knowledge, skills and the capacity to further their own learning both as employees and citizens in wider society (Boud & Garrick, 1999b).

The increased importance assigned to workplace learning is due to a number of factors (Allee, 2000; Boud, Freeland, Hawke, & McDonald, 1998). First, countries with sophisticated economies are now looking for a competitive advantage and workplace

learning has been identified as a source of ascendancy. Knowledge has even emerged as a new market with organisations now competing for people with expertise and the capability to generate and implement new ideas (Argyris, 1991; Boud & Garrick, 1999a; Watkins, 1991; Wenger et al., 2002). In-part, changes are tied to globalisation where human capital has become more internationalised. In some industries it is the fiercest market with respect to the challenge of recruiting, developing and retaining talent (Boud & Garrick, 1999b; Watkins & Marsick, 1992; Wenger et al., 2002). This could be said of high performance coaching within the Australian sporting context, with innovative and successful coaches being in demand both nationally and internationally. There has also been a significant push from a range of sources towards stronger relationships between industries and education. Finally, there has been renewed interest in the idea of 'life-long learning' and its relationship to civil society. In this final case, the modern enterprise can be seen to have a responsibility to foster the development of the whole person, and foster civil society, not just simply invest in the skills and knowledge required for work (Boud & Garrick, 1999b).

The key sources for workers to learn their vocational activities are through work with work activities, and through other workers with the workplace itself facilitating this (Billett, 2001b). It is now recognised that by far the greatest proportion of organisational learning actually occurs incidentally or adventitiously, including exposure to the opinions and practices of others also working in the same context (Matthews & Candy, 1999). Learning throughout working life is an inevitable product of everyday thinking and acting and it is shaped by the work practices in which individuals participate (Billett, 2001d). The kinds of opportunities provided for learners will be important for the quality of learning that transpires and equally, how individuals engage in work practice will determine how and what they learn (Billett, 2001c). This

can be referred to as the activities and interdependencies afforded by the workplace (Billett, 2001d).

In keeping with the idea of legitimate peripheral participation, which will be discussed in further sections, it has been suggested that engagement in authentic workplace activities has made the strongest identifiable contribution to learning in the workplace (Billett, 2000, 2003; Lave & Wenger, 1991; National Board of Employment Education and Training, 1994). This is even compared with interventions aimed at 'formalising' workplace learning (Billett, 2000). A possible reason suggested by Billett (2000) is that engagement in everyday work activities provides ongoing access to goal-directed activities and support, both of which are instrumental in assisting individuals constructing or learning new work-related knowledge as well as the strengthening of that learning. In addition to this, workplaces provide a physical environment rich in important clues, cues and models that assist individuals' thinking and acting and hence their learning and understanding (Billett, 2000). Other workers are also used as comparative models for performance (albeit in different ways) and as a source of how work tasks should proceed through observations and more direct interactions (Billett, 2000). Despite the shift towards the recognition of the workplace as a legitimate site of learning, it is not without its problems.

Potential Problems Associated With Workplace Learning

Despite the organisational, economic and social importance of workplace learning, it should be noted that the structure of organisations and indeed the management of the learning practices within them have generally been slow to adapt in line with new conceptions of learning. Organisations have continued to heavily invest financial, organisational and capital resources in outdated formal and informal

workplace learning structures (Marsick, 1988). While economists have always recognised the dominant role that knowledge increasingly plays in economic processes, they have, for the most part, found the whole subject of knowledge too slippery to handle (Ahmed et al., 2002). This means that it is traditionally difficult to determine and quantify what return organisations are getting on their investments in employee learning.

Just as it has been identified in educational institutions, there is often a 'hidden curriculum' in work settings (Billett, 1999). This may result in undesirable behaviours such as inappropriate short cuts, unsafe behaviour, the reinforcement of restrictive patterns such as non-inclusive behaviour, and problems associated with the development of understanding (Billett, 1999). It may also be the case that it is simply impossible to secure certain learning opportunities because they do not exist within the enterprise (Billett et al., 2003).

More explicit organisational factors may also inhibit learning. For example, not all other workers or experts may be willing to share their knowledge, particularly if they are concerned about their status, or employment prospects (Billett, 1999). It has also been suggested that the experiences a company is willing to make available to workers are associated with its strategic or even short-term goals (Billett, 1999). Opportunities to engage with learning activities are constituted and distributed by such things as workplace hierarchies, group affiliations, personal relations, workplace cliques and cultural practices, and the availability of activities (Billett, 2004b). Moreover, judgments of individuals' competence, race, gender, worker or employment status and affiliations are all factors that impact on who is involved in learning and what is learned (Billett, 2004b).

Implications for Learning

As previously mentioned, the way academics have theorised learning has shifted and this is consequently also true for the notion of workplace learning (Watkins, 1991; Watkins & Marsick, 1992). As a result, there are a range of disciplines that have demonstrated an interest in workplace learning, from psychology to management, reinforcing the idea that it is multidisciplinary in scope and nature (Ahmed et al., 2002; Billett, 2001b; Boud & Garrick, 1999b). In the context of work, learning can no longer be described as a discrete activity for some workers, rather, in a productive workplace, learning is considered to be part of the everyday work of all employees (Boud & Garrick, 1999b; Matthews & Candy, 1999). In the complex enterprises of the new millennium, learning has moved from the periphery as something that prepared people for employment, to a central position necessary for the sustained future of the organisation. It should be viewed not as something that requires time out from productive activity, but as something that is at its heart. With this idea comes challenges and complexity.

One such complexity involves the issue of what comprises being competent or having expertise, because in working life this can have cultural, situational or personal connotations (Billett, 2004a). Many paid occupations represent instances of sociocultural practice that transform over time, as needs and technologies change. Learning throughout working life, in this way, can be viewed as a transformative journey as individuals selectively negotiate their engagement in work, changing work requirements, work practices, and the shifting bases for participation in work (Billett, 2004a).

Today's workplaces, of which coaching can be considered a part of, present a data-rich environment, which enables and requires new forms of work, production and

management practices (Casey, 1999). This is certainly true of high performance sport coaching where the amount of information available to coaches has increased exponentially over the past couple of decades (Bowes & Jones, 2006; Cavalheiro, Soter da Silveira Jr, & Palermo, 2005). The effective practitioner might be considered to be one who actively seeks out opportunities for new learning and who is constantly attempting to predict future directions (Matthews & Candy, 1999). This learning has been called 'generative' or 'anticipatory' to distinguish it from the more common concept of 'reactive' or 'maintenance' learning (Matthews & Candy, 1999). Generative or anticipatory learning requires proactive, strategically focused, and authentic work-based learning.

It is clear that with the emerging understanding of workplaces as fluid, globalised and highly contested environments, learning and research about learning has subsequently shifted focus. While greater detail regarding learning theories will be presented throughout this chapter, it may be said that empirical research has begun to establish workplaces as legitimate sites of meaningful learning that the ways in which this learning can be fostered and promoted are crucial to the continued success of any organisation. A corollary of this is that employees must be viewed as learners within the organisation and this has particular implications for the individual.

Implications for Learners

As previously mentioned, it has become increasingly clear to all concerned that people learn through their experiences of work and workplaces (Casey, 1999). Individuals must be thought of and treated as purposeful beings, and workplaces must be developed, which not only meet the requirements for productive activity, but build on the foundation of psychological prerequisites for working life (Matthews & Candy,

1999). It is important to see individuals within their social contexts and vital to recognise that individuals both shape and are shaped by their work (and other) contexts, and that they are capable of bringing to their workplaces a great deal of knowledge, experience and insights, which would help to accommodate and capitalise on a rapidly changing world (Matthews & Candy, 1999).

It should also be acknowledged that for the individual, learning presents not only intellectual challenges but especially in the context of work, personal challenges as well (Barnett, 1999). Our sense of ourselves as individuals is rooted in what we know and understand. In workplace settings, admitting that we still have much to learn may be extremely discomforting and highly threatening to one's authority (Barnett, 1999). This is even more significant in the coaching area where employment is often tenuous and volatile. If, however, the workplace is part of a learning organisation, where everyone is a learner, then potentially workers can all learn from each other all of the time. In this case, learning is work, not just an addition to one's workload (Barnett, 1999).

Theorisations of Coach Learning

The subsequent sections are not intended to be comprehensive reviews of each theory of learning that has shaped my understanding of how coaches learn. Rather, the reason for addressing a number of theories is because firstly, one of the aims of this thesis is to capture my process of coming to understand how coaches at the QAS learn. Secondly, as mentioned in the introduction to this chapter, I agree that one all-encompassing theory of learning is probably unattainable, and would therefore like to describe why some of these theories are useful for looking at certain aspects of the coaches' work but not for answering other aspects of my research questions. Finally, it has been suggested that the process of theorising can be both speculative and generative

but caution should be taken regarding the ideal of a well integrated theoretical frame of reference (Tinning, 2003). For this reason, I will describe a number of theories that have enhanced my understanding of learning while demonstrating the ability to see beyond them also.

Because research into workplace learning does not comfortably sit within existing disciplinary areas or fields of enquiry, it necessarily crosses boundaries (Boud & Garrick, 1999b; Fenwick, 2001). The multidisciplinary nature of current enquiry has lead to a proliferation of theorists and theories regarding the broad question of how workers learn. As a result there is an abundance of available theories from sociology, cognitive psychology, policy studies, management theory, adult education, economics, learning theory and industrial psychology (Hager, 1999). This diversity of theories is both to be expected and provides some definite advantages with respect to theoretical pluralism (Hager, 1999). This diversity of themes will allow a more thorough description and explanation of workplace learning which will no doubt offer guidance on how to do it well (Hager, 1999).

Different theories will often have different scope and will therefore potentially be better at answering different kinds of questions (Hager, 1999; Wenger, 1998). To some extent, the differences are simply with respect to the emphasis they place on various aspects of the multidimensional question of learning while some differences reflect quite fundamental variation in underpinning ontologies and epistemologies (Wenger, 1998). In short, they address learning from a number of perspectives and at differing levels of analysis. The progression of my understanding of learning will become more obvious as I make connections with the theories of situated learning, experiential learning, finally working my way to the notion of relational interdependence. During the discussion of these theories and perspectives, some

attempt will be made to consolidate some of the relationships that I feel exist in the field.

Situated Learning

From the traditional view of learning, largely analogous with the acquisition and brick wall metaphors, a different view has emerged in the past couple of decades where the focus is on the person as a member of a sociocultural community (Fenwick, 2001; Lave & Wenger, 1991). The theory developed from the notion of apprenticeships with the main focus being on understanding learning as social participation (Lave & Wenger, 1991; Wenger, 1998). This attempt to expand our attention from the learner as an 'isolated' individual to include focus on the social settings that construct and constitute the individual as a learner was termed 'situated learning' by Lave and Wenger (1991). The term has since been used to describe a broad collection of work that shares an emphasis on the importance of context in acquiring knowledge and skill (Tennant, 1999).

The 'situatedness' of learning means that learning takes place in particular sets of circumstances in time and space and may also refer to the fact that learning is social, in so far as it involves interaction between an individual learner and others (Billett, 2000; Lave & Wenger, 1991). As such, Lave and Wenger (1991) contend that there is no activity that is not situated. This being the case, learning is viewed as multidimensional in that individuals typically learn more than one thing at a time and often implicitly, as in the case of hidden curriculum (Kirk & Macdonald, 1998). For this reason, situated learning accounts well for unintended or incidental learning, which has often been the weakness of other theories of learning.

Frameworks associated with situated learning have been used in much sport research, ranging from physical education settings (Kirk & Macdonald, 1998; Renshaw, 2002), to sporting organisations such as surf life saving clubs (Light, 2006). It has also been previously used in coaching settings (e.g. Culver & Trudel, 2006; Galipeau and Trudel, 2006). Situated learning, and in particular, the notions of communities of practice and legitimate peripheral participation, have been particularly useful in how I have come to view learning.

Legitimate Peripheral Participation

Legitimate peripheral participation implies that all participation occurs within sets of relationships in which people begin as 'new-comers' and may move towards full participation through particular experiences, competencies and relationships (Lave & Wenger, 1991; Macdonald, 2004). Far from being an educational form or pedagogical technique, legitimate peripheral participation is an analytical viewpoint on learning, a way of understanding learning (Kirk & Macdonald, 1998; Lave & Wenger, 1991). The key to legitimate peripherality is access by newcomers to the CoP and all that membership entails (Lave & Wenger, 1991). This current study examined the ways in which QAS coaches engaged with the organisation, with other coaches and with significant others and the consequent impact on learning and therefore legitimate peripheral participation has some relevance. At various stages, it has been proposed that elite level coaches proceed from athletes, to assistant coaches, to head coaches in a way that might be viewed as legitimate peripheral participation (Trudel & Gilbert, 2006).

Communities of Practice

The other major component of Lave and Wenger's (1991) theory is the notion of communities of practice (CoPs). A community of practice is any collectivity or group who together contribute to shared or public practices in particular spheres of life (e.g., an occupational group of high performance sport coaches) (Boud & Garrick, 1999a; Kirk & Macdonald, 1998; Lave & Wenger, 1991). Indeed, it has been suggested that CoPs are everywhere, with individuals belonging to several communities at any given time (Wenger, 1998). Some CoPs are recognised whilst some remain largely invisible with individuals becoming core members of some and experiencing occasional involvement in others (Wenger et al., 2002).

The fundamental elements of a community of practice are a 'domain' of knowledge, which defines a set of issues, a 'community' of people who care about the domain, and shared 'practice' that individuals are developing to be effective within the domain. Elaborating further, Wenger (1998b), identified three dimensions along which a CoP defines itself: joint enterprise; mutual engagement; and shared repertoire. Joint enterprise refers to what the community is about and is therefore continually renegotiated by the members (Wenger, 1998). At the QAS, the joint enterprise may focus around the identification and definition of problems, provision of solutions, and generation of innovative work practices. An explicit example of the joint enterprise is the collective goal of developing athletes for performance in significant national and international competitions and the shared aim of being the top performing Academy/Institute in the country. Mutual engagement describes how the community functions and it is this aspect that has the effect of binding members together into a social entity (Wenger, 1998). The potential for strong mutual engagement may be enhanced at the QAS given the decreased competition between employed coaches

because of their engagement in separate sports. This has been an issue in other sporting contexts (Trudel & Gilbert, 2004). The shared repertoire refers to the communal resources that members have developed over time and includes routines, vocabulary and various artefacts (Wenger, 1998). At the QAS this may refer to workplace documents and annual reports as well as shared 'war' stories regarding their coaching work.

Applicability of CoPs to Coaching Work

The applicability of CoPs and its associated research within work settings has attracted increasing managerial and academic attention as organisations continually look for ways to do more with less (Fontaine & Millen, 2004; McDermott, 2000; Vestal & Lopez, 2004; Wenger & Snyder, 2000). Much of the research has focussed on how CoPs can be supported, the relationships within them, and how best to support the generation of new knowledge (Fontaine & Millen, 2004; Wenger, 1998).

As in the field of workplace learning, researchers in the sporting domain have used situated learning frameworks to understand the learning of those involved. Galipeau and Trudel (2005) examined the development of athletes in varsity sport teams using a CoP framework. The notion of coaching CoP was further extended in the work of Culver and Trudel (2006) in their study of coaches in athletics and skiing. Their conclusion was that coaches of the same team or club have the potential to form coaching CoPs but only if they take the time to meet and discuss things beyond schedule or organisational matters, allowing them to deepen their knowledge and expertise (Culver & Trudel, 2006). The point was made that it is almost impossible in this culture, to find a coaching CoP outside of a specific team or club given the highly competitive nature of the field (Culver & Trudel, 2006). This has great relevance to the work of the QAS coaches in that there appears to be little, if any competition between

coaches. Given the applicability of CoP frameworks for examining workplaces and coaching, at the beginning of this study I was particularly interested to understand how it might relate to the learning of the QAS coaches. There were however, a number of limitations associated with CoP frameworks that meant it was not as potentially generative as other theories associated with situated learning.

Problems with CoPs in Understanding Learning

Despite the generative nature of some aspects of CoP frameworks with regard to research on coach learning, there are some potential problems that I have categorised into two areas, those which exist on a practical level, and those that are more theoretical in nature.

Practical issues.

Practical issues relate to the operation, management and direction of the communities. For example, if not managed correctly, workplace communities may tend to conserve, protect, and recycle their knowledge, not critically challenge and extend it, therefore limiting innovation. (Fenwick, 2001; Wenger, 1998; Wenger et al., 2002). The intimacy that is regularly encouraged in the development and establishment of CoPs can create barriers to newcomers, discourage the pursuit of new ideas and create a reluctance to critique each other (Fenwick, 2001; Wenger, 1998; Wenger et al., 2002).

If created properly, communities should enjoy legitimacy but this may create arrogance and a pursuit of their own agenda with little regard for what the team or the organisation really needs. Conversely, the community may experience marginality and not be taken seriously generating shared discontent without a vehicle for initiating change (Wenger et al., 2002). Another legitimate concern is that newcomers may

actually learn incorrect, problematic or dangerous techniques and ideas from experienced community participants (Billett, 2006b; Fenwick, 2001). While these issues have the potential to turn the community into a dysfunctional, counterproductive waste, by acknowledging the potential impact, the potential sources of problems, and the need for continual vigilance, the benefits can be enhanced and the risks minimised within workplaces (Wenger et al., 2002). In short, while these practical problems are potentially rectifiable with good management, it was largely the theoretical concerns that led to the reduced contribution of the CoP framework to this research.

Theoretical concerns.

Regarding work and business settings, the use of this framework has been somewhat criticised given its strong emphasis on tight-knit communities as a vehicle for learning (Renshaw, 2002). Given that economic growth in the last few decades has been associated with increased mobility and the breakdown of closely-bonded communities, the suggestion by some has been that CoPs are perhaps outdated and incapable of achieving the previously claimed positive outcomes in current work environments (Renshaw, 2002). Countering this argument has been the emergence of online CoPs that make use of networked technologies to establish collaboration across geographical and organisational barriers as well as time zones (Johnson, 2001). Others have suggested that there may be alternative ways to characterise the learning relationships that exist within social settings. In recent writing, Trudel and Gilbert (2006) note the existence of different forms of communities that may be given different names based on the types of interactions that occur. They refer to the traditional CoPs as well as Networks of Practice (NoPs) and Informal Knowledge Networks (IKNs) (Trudel & Gilbert, 2006). These descriptions of NoPs and IKNs are useful in

characterising and categorising the sources that coaches engage with in developing their practice. As such, reference will be made to these later in the thesis.

Another problem is that while the importance of context is stressed by the CoP framework, there have been few attempts to provide an in-depth description of the context as part of empirical work and little attention given to how different contexts affect the learning that takes place (Fenwick & Rubenson, 2005). Given that notion of context is heavily emphasised in the CoP framework and in the subsequent work of Wenger in particular, I believe that this represents flaws in research design rather than in the CoP framework.

Another concern relates to the term 'community' and the associated feelings of comfort and close relationships, where individuals feel at ease and willing to contribute to the proceedings without fear or threat. Within the CoP framework, communities are often seen as benign whereas the reality is often quite different (Collin, 2005). Renshaw (2002) argues that in reality, communities can be volatile and dangerous, where individuals may battle for power and prestige, and newcomers are treated with suspicion or contempt. This is a legitimate concern and the insufficient analysis of macro-politics and solidarities within the community somewhat diminishes the generative power of this framework in work settings (Fenwick & Rubenson, 2005). Given the inherently competitive nature of coaching work, this may serve to compound this deficiency.

It has been argued that in the CoP framework the individual does not receive particular attention as separate from the community so the relationship between individual learning processes and collective processes is rarely theorised (Fenwick & Rubenson, 2005). In other words, the 'how' of learning, seems to disappear in the broader concept of learning as participation (Elkjaer, 2005). For this reason, individual differences in perspective, disposition, agency, social/cultural capital and the like are

unaccounted for (Fenwick & Rubenson, 2005). I find this to be a significant issue. The attention that is placed on the individual in their movement from peripheral to more central participation is not enough to explain the different learning encountered by members of the same community, with similar levels of centrality. This is one of the main reasons that this theory will not be central to the analysis included in this project.

Finally, as noted by Fenwick (2001), some researchers have argued that the overwhelmingly practical and social focus of situated learning theories may not suit abstract, complex work activities. High performance sports coaching has been characterised as an essentially cognitive activity (Lyle, 2002), and if the criticism is to be taken as true, coaching may not be well suited to the application of a CoP framework.

It is appropriate to note that the situated learning framework provides a good basis for understanding the processes that contribute to learning in the workplace, particularly through the notion of legitimate peripheral participation. The identified weaknesses appear only when researchers (or those interpreting the research of others) attempt to account for components of learning that are simply not foregrounded in the situated learning theory. It is not to say that the CoP framework denies the existence of some of these components, it simply does not emphasise or deal with them.

Experiential Learning

Development of Experiential Learning

The idea that direct experience is central to the construction of knowledge is generally attributed to Dewey (1938) who challenged the traditional view of de-contextualised knowledge acquisition. Because the environment is in a constant state of

flux, Dewey (1938) proposed that humans need to grow and readjust constantly. He went on to suggest that learning is contingent on experience but acknowledged that experience did not necessarily always lead to learning (Dewey, 1938). Central to the process of transforming experience into knowledge is reflective thinking during and after doing (Fenwick, 2001; Hager, 2004; Trudel & Gilbert, 2006). Dewey's (1938) view of reflective thinking incorporates all aspects of the context in which it occurs including social, moral and political influences with consideration also given to the importance of dispositions and abilities.

From this, several theories of how individuals construct knowledge through experience developed (e.g., Kolb, 1984; Lave, 1988; Schön, 1983). Gilbert and Trudel (1999) contend that Schön's theory stands apart given its focus on the construction of domain-specific knowledge in the context of professional practice. They argue that for this reason it may be the most appropriate conceptual framework to examine how coaches construct coaching knowledge through experience (Gilbert & Trudel, 1999). Pivotal to Schön's theory of experiential learning and reflective practice is the construction of domain-specific knowledge through the context of professional practice (Irwin et al., 2004). Schön (1983) contends that knowledge construction is a process of critical reflection-in-action and reflection-on-action and according to this theory, the reflective process is dependant on the individual encountering unexpected results.

The Reflective Process

Four themes are central to the reflective process; role framing; problem setting; knowledge construction through experimentation and; creation of virtual worlds (Schön, 1983). Of the four themes, role frames have received the greatest attention. Practitioners 'frame' their roles (these could be considered psychological or social

constructs), which are used to interpret situations. The way they 'frame' their role determines what information is most salient for them and therefore what type of knowledge is constructed (Gilbert & Trudel, 1999). The notion of role frames is quite similar in some ways to the notion of frameworks as discussed in schemata theory in that both are used by individuals to interpret their worlds. It appears as though both schemata and role frames are self reinforcing in situations which are similar or when results are expected (Akkerman et al., 2007; Bowes & Jones, 2006; Dodds, 1994).

Because of their somewhat fixed nature and strong influence on the individual's ability to construct knowledge (Schön, 1983), role frames have been attracted significant attention by coaching researchers interested in contributing to coach development programs (Gilbert & Trudel, 2004b). If the ultimate aim is to generate coach development activities, the identification of role frames can be somewhat problematic given that they are extremely idiosyncratic and unique to each individual. It should also be noted that role frames are often tacit, meaning that coaching researchers have had to infer the components from coach language and behaviours (Gilbert & Trudel, 2004b). For these reasons some coaching researchers (e.g., Gilbert & Trudel, 2004b) have elected to identify a range of boundary (situational factors that influence the coach's approach to their work) and internal components (personal views and attitudes) to inform their recommendations. When it comes to the actual implementation of their recommendations, coach researchers have had to move to theories of learning at a different level of thinking such as CoP models (e.g., Gilbert & Trudel, 2004) and mentoring frameworks (e.g., Cushion et al., 2003).

Applicability to Coaching Research

Given Schön's (1983) emphasis on the relationship between knowledge, context and professional practice, the applicability of his theory to coach learning while engaged in work is quite apparent. In relation to coaching research, much has been inspired by the work of Schön with a number of researchers adopting Schön's (1983) model of reflective practice to investigate various aspects of coaches' work (e.g., Cushion, 2004; Cushion et al., 2003; Gilbert & Trudel, 1999, 2001; Irwin et al., 2004; Trudel & Gilbert, 2006). Coaches have repeatedly cited that coaching experience is the primary source of their coaching knowledge (Gilbert & Trudel, 1999) and Schön's experiential learning theory has been proposed as a way of accounting for and better understanding why this is so.

Problems in Using Experiential Learning Frameworks

As with situated learning, there have been a number of problems identified regarding the use of experiential learning frameworks. Fenwick (2001) notes that opponents have criticised the importance placed on reflection as simplistic and reductionist in that it celebrates rational control and mastery while ignoring the role of desire in learning. It is this desire that directs and mediates the reflection that is even possible. It has also been suggested that it sidesteps ambivalences and resistances in the learning process (Fenwick, 2001). These aspects (desire, ambivalences, and resistances) are held to be of great importance in coach learning and when considering a lifelong perspective. The importance placed on dispositions and abilities found in Dewey's (1938) ideas, are somewhat lost in Schön's (1983) work. These aspects are, however

re-emphasised in the identification of internal components in Gilbert and Trudel's (1999) work.

The notion of reinforcement is predominantly backgrounded in the majority of experiential learning theories. It is argued that no reflection (and associated learning) occurs if the outcome achieved in expected, because there is no need for critical reflection to occur (Schön, 1983). Because of this theoretical orientation, the ways in which workers develop shortcuts remain unexplained. If a worker follows a certain procedure, a known outcome will be achieved. In this instance, according to Schön (1983), there will be no need to reflect. Without reflection, how would a worker then question 'could this be done differently?'. Another associated issue is that it is often not clear how these individuals acquire these reflective skills. Finally, it has been suggested that the learning process of reflection ignores the possibility that experience and knowledge are mutually determined and denigrates bodily and intuitive workplace experience in favour of rational thought (Fenwick, 2001). Again, this is an issue for sport coaches for whom embodied knowledge is thought to be valued.

Relational Interdependence

While CoPs and experiential learning frameworks have certainly helped to shape my understanding of learning, the orientation of the research in combination with the previously identified issues meant that I chose to primarily connect with the theory of relational interdependence for this research. This theory, however, is certainly not too dissimilar from the previously described notions of learning and in particular, I view this theory as sharing the fundamental premises of situated learning. As with a number of other researchers in the area of workplace and coach learning, Billett (2004c) argues against the view that learning is only a formal process occurring in formally structured

educational settings like schools. Instead, he proposes that learning should be viewed as a consequence of everyday thinking and acting and it is about making sense of the things we encounter throughout our lives (Billett, 1999). A distinction that is made is that rather than merely 'internalising' knowledge from social sources, or being 'socialised', learning entails an interpretive process of knowledge construction as well as the remaking of practice (Billett, 1999, 2006a). The transformative aspect of this theory was a feature that was especially attractive given the strong historical association of sport with racist, sexist and violent behaviours (Booth & Tatz, 2000).

Individuals are meaning-makers and their construction of knowledge is based on their existing knowledge, including their beliefs and values (Billett, 1999, 2006a). For these reasons, Billett (2004c) proposes that workplaces be conceived as learning environments that must be understood as a complex negotiation about knowledge use, roles and processes. Jones, Armour and Potrac (2002) identified growing support for the notion that coaching is not something that is merely delivered, but that it is a dynamic, social activity that the coach is actively engaged in. They go on to endorse the need to consider the dual impact of structure and agency on the construction of role (Jones et al., 2002). It appears as though Billett's theory of relational interdependence fits quite well with this idea, as well as with Armour and Jones' (2000) comment that coaches act both as they choose and how they are influenced to choose.

The underlying premise to the work of Billett is that there is a fundamental need to more fully understand how workplaces afford opportunities that lead to the development of vocational knowledge and a need to understand how workers elect to engage with what the workplace affords (Billett, 2001a, 2004c, 2006b). He argues that some accounts of learning in the workplace overly privilege social agency in the form of social contributions whereas he proposes a consideration of the role of individual

agency. It is also necessary to consider the ways in which this personal agency is socially shaped over time and serves to be generative of individuals' cognitive experience, as well as its role in the subsequent construal of what is experienced socially (Billett, 2006b). In this way, individual or personal agency can be thought of as referring to intentionality, subjectivity, and identity (Billett, 2006b).

In describing these reciprocal bases of participation and engagement in thinking, acting and learning, Billett (2001a) has previously made use of the term 'co-participation'. Valsiner (1994) refers to the co-construction of knowledge in describing the reciprocal act of learning through which both the object and the subject are transformed. Billett (2001a) proposed that analogously, the interactions between individuals and social practice are reciprocal and interdependent. This engagement was referred to as being co-participative. In descriptions of co-participation, three key contributors to how individuals learn their vocational practice are identified; engagement in everyday work tasks, direct guidance of co-workers, and indirect guidance provided by the workplace itself and others in the workplace (Billett, 2001a).

In more recent works, Billett moved away from the term co-participation towards what he considers to be a more accurate reflection of the interaction between the affordances of the organisation and the engagement of those who work within it – relational interdependence (Billett, 2006b; Billett et al., 2005). The term 'co-participation' was thought to be problematic as the relationship did not appear to be reciprocal but rather relational, hence the use of the term 'relational interdependence' (Billett, 2006a, 2006b). The fundamental underpinnings of the earlier co-participation idea remain but the nature of the interaction is more accurately reflected in the modified designation. It is suggested that learning constitutes a duality comprising interdependence between social suggestion and individual agency, the legacy of which

is both individual learning and the remaking of culture (Billett, 2006a; Billett et al., 2005). Beyond the consideration of these dualities, there is a need to consider the significance of what Billett (2006a) calls 'brute facts' in conceptions and accounts of learning. These brute facts include factors such as age, desire, time, and space. This fits well with a life-long learner perspective on learning in that the future outlook for individuals will surely influence what and how they learn currently. Consequently, considerations of learning pedagogy and curriculum need to consider the individual and the relevant impact of brute facts on their learning, particularly when working with adults (Billett, 2006a).

In summary, the affordances of workplaces shape the array of experiences individuals are able to access and, these individuals in turn, elect how they engage, construe and construct what they are afforded (Billett et al., 2005). The aim for researchers using this framework is to understand how these relational interdependences shape the participation and subsequent learning and remaking of work practices in these workplaces (Billett et al., 2005). In the subsequent sections it is necessary to more fully explain each of these underpinnings so as to more accurately understand the nature of their relationship with the learning that does (or does not) occur. Accordingly, I will firstly describe the affordances and constraints of the social setting, followed by a description of the agency and biography of the individual participant, before then characterising the interaction in relation to Billett's theorising.

Workplace Affordances and Constraints

Learning through work is premised on the opportunities individuals have to engage in workplace activities and the guidance they can access (Billett, 2001a). How workplaces provide these opportunities to learners is central to what is learned. In the

case of the QAS, I have previously described a range of learning sources that are largely beyond the control of the QAS. While the QAS may have some influence over these sources, it could be considered to be relatively minor. As such, the primary source of previous coaching experience (prior to QAS employment) and the secondary sources of experience as an athlete, broader life experience, self-directed reading (excluding the QAS information centre provisions), and other non-QAS coaches were not afforded nor were they heavily constrained by the QAS. This could be seen as a potential weakness of this particular theory. When using relational interdependence as a theoretical framework it is difficult to capture those experiences which occur prior to entry to the workplace or those that occur in ways that are parallel and disconnected from the workplace, no matter how significant they are reported to be. The concession should be made that there is some scope for the inclusion of previous sources given the strong direction to consider the premediate experiences of the coaches. Given that the central purpose of this thesis was to consider the learning that did and did not occur within the workplace of the QAS coaches, this potential limitation is largely irrelevant. Similar to my critique of CoP and experiential learning frameworks, I suggest that relational interdependence should only be used to examine aspects of learning that it was intended to examine (i.e., the elements it has foregrounded). Given that it primarily focuses on the contributions of the workplace (affordances) and the individual (personal agency), and that the aim of this research was to examine coach learning at the QAS, the application of this theoretical framework may be deemed to be appropriate. As such, the rest of this section will primarily deal with those sources of learning that the QAS had more direct influence over.

Both coaches and administrators acknowledged the need for continual learning to achieve and maintain success in high performance sport. The centrality of

interactions in the learning of QAS coaches is evidenced in the majority of sources identified in the previous chapter (e.g., other members of staff including coaches, administrative staff and sport scientists). The importance of developing and maintaining relationships was discussed by Alastair when he said *"building relationships is critical"*. The relationship between interactions and innovation was also highlighted by Andrew when he said *"*[a coach doing something different] *is often a result of a conversation they had with someone"*. He elaborated by saying *"someone says something and that takes their mind into new ways of thinking which allows them to solve problems or look at things in different ways"*. Andrew's and Alan's comments are supported by Allee (2000) who suggested that as people move beyond routine processes into more complex challenges they rely heavily on significant others as a primary knowledge resource. Similarly, it has been shown that for coaches in a variety of settings, constant interactions with peers is one of the best sources of learning (Duffy et al., 2005; Irwin et al., 2004; Salmela & Moraes, 2003). Part of the reason for this has been shown to be the ability to ask questions, clarify issues and have informal discussions with others (Williams, 2007).

Craig confirmed the importance of interactions to his learning at the QAS saying *"I suppose talking to people* [is how I learn]*"*. Chris too, noted the overall importance of interacting with others as a course of his coaching development: *"there is no substitute for ... the informal swapping of ideas and discussion. Usually in the company of a beer or two"*. I include the last part of Chris' statement because he was not the only coach to refer to informal and relaxed social settings in which alcohol may be present. Charlie also, said *"it is good when you are at national camps ... with other coaches and you often have a glass of beer and talk about different things associated with training"*. At another stage of the interview, Charlie said, *"at some seminars you*

also can learn more at the bar after the days talk than anything else. You learn a lot by being in that environment". Interactions in these settings are potentially significant given the highly guarded nature of some interactions as described previously.

Aside from interactions with various members of the QAS, the coaching experiences that QAS coaches gained since commencing work at the QAS were a primary source that was reportedly making a continued contribution to the learning of the coaches. Billett (2004c) proposed that when individuals engage in everyday thinking and acting, more than merely executing a process or task, their knowledge is changed in some way, however minutely, by that process. Reinforcement of what is already known will be the most likely change arising through everyday thinking and acting in workplaces but this is important for refining procedures and rendering tasks to be undertaken with minimum resort to conscious thought (Billett, 2004c). According to Billett (2004c), this then frees up working memory to focus on other tasks, allowing the individual to use their cognitive resources more selectively and strategically. This was an outcome reported by the QAS coaches regarding their previous QAS coaching experiences. As noted previously Clarke indicated that as a result of his previous coaching experiences he was able to take shortcuts and make better decisions: *"what I can see in a player now is, if they are having issues in their life that are going to affect down the track I can pick up on that a lot earlier and confront them"*.

When engaging in activities that are new to the individual, there is the potential to extend what the individual knows, through the creation of new cognitive structures (Billett, 2004c). More than an end in itself, participation in workplace activities results in change in understanding and capacity, constituting learning for the individual (Billett, 2004c). Again this was a component of QAS coach learning in that coaches reported

engaging in novel situations often using the phrase ‘thrown in the deep end’ to describe their exposure to tasks and responsibilities that were largely unfamiliar to them.

Workplaces provide interactions with human partners and non-human artefacts that contribute to individuals' capacity to perform and to the learning that arises from their performance (Billett, 2004c). In his description of how coaches learn to perform the tasks associated with the administration of their program, Aaron noted, *“there is a template, there is assistance, there is guidance* [for administrative tasks]*”*. In this instance he is indicating that guidance for coach learning is provided by co-workers as well as by the physical environment in the form of workplace artefacts, in this case, templates and proformas.

For many workers, the workplace represents the only or most viable location to learn and/or develop their vocational practice (Billett, 2004c). This is certainly true of the QAS coaches given the extremely isolated nature of their work, the general inaccessibility of quality coaching guidance, and the highly guarded and competitive nature of performance sport. These are aspects that will be elaborated on in the personal agency section of this chapter.

Rather than being without structure and intent, workplace activities and interactions are highly structured and regulated, and have inherent pedagogical properties (Billett, 2004c). Workplaces, by their nature, are not benign entities, they have explicit and implicit goals and practices that will direct and guide what is learnt and what is valued. Workplaces intentionally regulate individuals' participation, therefore worker involvement should not be viewed as ad hoc, unstructured or informal (Billett, 2004c). The availability of access, or lack thereof, to the direct guidance required to learn difficult or complex knowledge will therefore influence what is learned at work and the quality of that learning. Similar to educational institutions, the goals,

norms and practices in workplaces frame the activities learners participate in, who is allowed to participate in those activities, and on what basis, and how they will be judged (Billett, 2004c). Within the QAS workplace factors such as the prioritisation of programs and the tiering of service provision allocations serve to regulate participation in a range of potentially generative situations including interactions with other members of staff (previously identified as a primary source of coach learning). Workplace affordances are constituted and distributed by such things as workplace hierarchies, group affiliations, personal relations, workplace cliques and cultural practices, and the kinds of activities in which individuals are able to or are requested to engage (Billett, 2001a, 2004b, 2004c, 2006b). Other empirically identified bases for affordances include race, gender, worker or employment status and affiliations (Billett, 2001a, 2004b, 2004c, 2006b). In short, workplace experiences are not available uniformly and their influence will be, at best, partial for some (Billett, 2006b). Those invited to participate fully in work practices are afforded richer learning than those who are not (Billett, 2001a). It should also be considered that it may not even be possible to secure certain learning in workplaces due to a lack of expertise or experience (Billett, 2001a). For the QAS coaches this may be a legitimate concern given that their appointment as a QAS coach is some indication that they are the most qualified coach in the state already. The isolated and competitive nature of their work compounds this potential problem further. It is important to consider that even if workers have sufficient access to work practices and therefore learning activities, not all learning will be adequate or even desirable. Individuals may well generate knowledge that is undesirable (e.g., gender or racial bias), short term (e.g., costly shortcuts), or just plain wrong (e.g., ways to circumvent drug testing procedures) (Billett, 2006b).

Aside from the specific sources of learning that participants identified, there were a range of factors that were reported to have a significant impact on coach learning at the QAS. While they could not be considered to be sources of learning, they were thought to direct, enhance or constrain the sources available as well as having impact on the personal agency of the individual.

QAS Operationalisation and Working Climate

Through the interviews, it became quite clear that the way in which the organisation operated had profound effects on the learning that was possible. Aspects such as the funding available to programs, the number and type of programs in operation at the QAS, the salaries of the coaches, and the reward and recognition available at the QAS served to direct the affordances and influence the personal agency of individuals.

Operational Model

Andrew said *"this organisation's motto is 'athlete-centred, coach-driven, service-supported'"*. Part of the justification for this often cited maxim of the QAS was offered by Alastair when he said, *"it's important that we have a coach-driven model because ultimately the accountability rests with the coach"*. Again, this comment serves to emphasise the coach-athlete performance relationship and its centrality to the aims of the QAS. However, regarding the QAS motto, Andrew said, *"I don't think that is a true reflection of what goes on here"*. Alastair also conceded that through a review process, which occurred during 2004 and 2005, it became clear that this was not actually the case and that the QAS tended to be *"program focussed"*. The issue appeared to be that in reality, the programs were not entirely coach-driven. While this

may not have direct implications for the learning of the coaches, it certainly adds to the pressured environment and will potentially affect their personal agency. If administration expectations and evaluations of coach performance are based on the assumption that the program is coach-driven and this is not the case, then the coaches may be held accountable for the outcomes of a program that they have a reduced control over. This may indirectly affect their learning through shifts in their personal agency as they attempt to secure personal and work goals. Similarly, if administrators are more focussed on the programs than encouraging the coaches driving those programs, support for coach learning may be less forthcoming. Related to the operational model was the degree of freedom and flexibility for the coaches.

Freedom and Flexibility

Alastair said, *"it is important ... to ensure that there is a degree of flexibility for that coach to be able to operate how he or she wants to operate"*. The implication here is that coaches who enjoy freedom in their work may also enjoy greater freedom of choice regarding what and how they learn. When Alastair said *"what we want is innovative coaches"*, the underlying implication is that coaches must be given the freedom and flexibility to be able to pursue a range of developmental activities that may not be an option or even be considered under other, more restrictive conditions. Alastair did say though, *"it doesn't mean 'here's $150,000 spend it how you want' ... There is still going to be checks and balances"*.

Andrew also noted that governmental accountability structures impacted on the work of coaches saying, *"there definitely are restrictions on how coaches can behave as part of a government agency"*. He went on to say that, *"*[there is a] *lack of true freedom of the coaches within the QAS to manage and direct programs as they might wish"*.

Andrew made reference to the expectations placed on coaches with respect to their freedom to achieve those expectations in what they deem to be the most appropriate ways:

> *I don't think there is anything wrong with those sort of expectations* [of success] *on the coach but in concert with the level of expectation should be the level of support and flexibility to achieve those sort of outcomes and that is what I feel is a mismatch in this organisation.* (Andrew)

His associated suggestion was the need for *"a ... more significant actualisation of the coach as the driver within this organisation"*. These comments are similar to the comments made about the mismatch between the rhetoric and the reality involved in the discussion of program funding, in that a more accurate matching would lead to either more realistic expectations or improved conditions for the coaches. By aligning rhetoric and reality in funding and ensuring the actuality of the coach as the driver of the process, coach learning may be enhanced by more accurately directing coach intentionalities or improving aspects associated with their personal agency. This may be viewed as further support regarding the relational nature of affordances and agency.

Program Funding

It is clear that access to a range of learning experiences are constrained by financial factors. The overall impression given by administrators at the QAS was that in general, the QAS is reasonably well-funded in relation to other AIAs. Regarding this, Aaron said, *"we have a very good* [State] *government that is providing a lot of good facilities"*. In terms of the programs, almost all coaches cited the need for additional money, but in general, they accepted their budget allocation and made comments similar to Clarke's: *"you're given x amount of dollars to spend and make the best of that money*

and get the best program possible". The tiering of programs and subsequent impact on the learning of coaches through interactions with paraprofessionals has been discussed previously and will not be duplicated here. The provision of professional development activities above and beyond those possible through the general program budget are similarly financially constrained in their scope, a point Clarke made: *"they are stymied by governmental procedures, funding I guess* [when offering activities for coach development]*"*. The argument that Clarke made at a later stage appears to be essentially about the mismatch of rhetoric and reality. He said,

> *We talk about being best practice and all that kind of stuff,* [but] *while we are governed by restrictions through management and government then we'll never be best practice because we don't put in enough resources to achieving what we want to achieve.* (Clarke)

The issue is not about what kind of goals and orientations the QAS should have regarding its coaches and athletes, but rather, how well these match the realities of working within a government department. If coaches' subjectivities and intentionalities are directed towards securing experiences and learning that are at odds with the reality of the governmental environment, they are likely to experience frustrations and barriers, leading to reduced learning. If, however, the QAS progresses towards the alignment of organisational rhetoric and reality and the individual coach's intentionalities, appropriate and generative learning is more likely to result.

Programs

As mentioned at the beginning of this section, the number and type of programs that are currently included at the QAS were a point of discussion for coaches and administrators alike. It was generally with regard to the inclusion or exclusion of

programs in relation to the overall money allocated to the QAS. Aidan suggested that the number of programs currently in operation at the QAS was acceptable, justifying it by saying, *"I think all the sports are all important to Queensland"* and there are *"a good mix of team and individual* [programs]*"*. While conceding that as a governmental organisation the QAS had taken the best option, he did suggest that at the time of the research, the QAS had *"too many mouths to feed"*. Three other administrators made similar comments with Alastair's comment summarising the overall sentiment *"I probably think we have got too many sports"*. While this may not appear to be immediately relevant to the learning of the QAS coaches, Aaron's comment about *"too many mouths to feed"* indicates that it does have a direct impact on the affordances that QAS administrators can make in a broad sense. Alan appeared to be acutely aware of this fact as indicated when he said *"our support services cannot cope in servicing the programs that we have so I recognise that we can't increase the numbers"*. Alastair too, suggested that prior to the 2005 review, he felt that the QAS programs *"weren't sustainable"*. The options presented through that review were to either reduce the number of programs at the QAS or to make strong decisions regarding how programs were funded. The decision was made to prioritise and tier the QAS programs. As a result, a range of developmental programs received reduced funding allocations while the budget and salaries associated with some international programs improved. The coaches were profoundly affected by these changes with a number explaining that previous sources of learning (e.g., medical professionals and sport science staff) had been significantly reduced or been made largely inaccessible.

Salary

As noted in the discussion surrounding the number of programs at the QAS, the decision to tier and prioritise different sports caused a few changes to coach and program access to paraprofessionals and also to program funding and coach salaries. Ashley pointed out that, *"there are lower bands and upper bands, the very same as most organisations, big organisations"*. It is these bands that determine the upper and lower levels of salary for the QAS coaches. Ashley suggested *"*[the] *upper band is fairly consistent with national level programs"*. A number of coaches disagreed, citing national and AIS coach positions that are better paid. Dall'Alba and Sandberg (2006) contend that salary scales influence the extent to which enhanced understandings of, and in practice, are recognised and rewarded. Accordingly, this dissatisfaction in remuneration for coaches at the QAS may be viewed in some small way as coaches not being recognised for their expertise.

This is certainly not to say that coaches are motivated to coach because of the money. In fact, the amount of time these individuals have spent as athletes and coaches in unpaid positions suggests that the opposite is true. There are, however a range of more global economic factors that impact on the coaches' lives. Aaron emphasised this point through a comparison with other industries saying it was unlikely, no matter how much the person enjoyed coaching, that they would say *"'instead of being paid $100,000* [as] *an engineer, I'll accept $40,000 and be a full-time coach'"*. Craig even compared the coaching salaries with other workers at the QAS. He said,

> *it's a kick in the guts when you know everyone else in the whole place is getting paid more than you and they've got no responsibility whatsoever as in management, sport science, you know? Whose job is on the line?*

Coaches. Who is working in holidays? Who is working weekends?

(Craig)

If we are to take lifelong learning and personal agency perspectives on these comments, the impact on the potential learning of the coaches is great. The impact that a good coach could have on the sport in the state was noted by Carl when he made the following argument *"you can have a coach around for 20 or 30 years that's going to have a huge impact and if he's remunerated accordingly or recognised accordingly they're going to see three or four different eras of athletes coming through"*. Conversely, if the coaches see that there is a limited future in coaching or they prematurely exit the organisation, taking valuable understanding and embodied knowledge with them, this is a concern for both the organisation and the coaches themselves. Indeed, Craig's comments above suggest that this may well be the case.

Social Environment

While less formal in its structure, the social environment was a factor that impacted on the learning of the coaches. The significance of personal interactions with a range of individuals has been previously described as a primary source for coach learning at the QAS. The social environment has also been identified by researchers in a range of fields, as a significant component of the learning possible (e.g., Fenwick, 2005; Hildreth & Kimble, 2004; Kirk & Macdonald, 1998; Lave & Wenger, 1991). It is clear that interactions between coaches and other members of staff at the QAS do not occur as freely as some situated learning theories would suggest. Reasons that were proposed for this lack of social cohesion included the inherently isolated nature of coaching, issues concerning the allocated workstations at the QAS, and as Carl suggested, *"social interaction is ... not a priority"*. Carl, along with other coaches and

administrators, acknowledged that some efforts had been made, but conceded that a combination of timing and location generally meant that the events were not well patronised by coaches.

The administrators expressed their desire to have the coaches feel supported during their employment at the QAS. Aidan said, *"I hope it is a positive and supportive environment that they feel when they come in"*. As a coach, Calvin expressed the feelings he had in relation to being supported: *"I think that's really motivational ... someone having confidence and belief in you can go a long way towards ... motivating me to perform better"*. This shows the importance of perceived levels of support from QAS administrators and the subsequent impact on the personal agency of the individual coach. Eraut (2004) described the overwhelming importance of confidence in learning in the workplace. Indeed, much learning occurs through coaches being sufficiently confident to seek out learning opportunities and revealing areas of weakness to others.

Reward and Recognition

The centrality of coaches to the talent development process has been consistently demonstrated in the coaching literature (Gilbert et al., 2006; Starkes & Ericsson, 2003). The importance of the coaches to the success of the QAS was certainly highlighted by the administrators and was supported by the coaches also. Alastair stated, "[the coaches] *are the most important part of the organisation ... If we don't have coaches functioning effectively, well there's no point in being here"*. Aidan too noted that *"coaches are key to driving the program and helping the athletes"*. The coaches understood their importance to the organisation. Carl said *"if you don't have coaches to train these athletes to a certain level, then you're not going to get the results"*. The administrators acknowledged the need for reward and recognition for all

QAS employees and Craig made comments indicating that, in his view, the QAS must do better to reward and recognise: *"if they want to keep the best possible staff"*. Reward and recognition was viewed by coaches as an important affordance that served to reduce some barriers to workplace learning and increase the personal agency of the individual coach.

Reward.

Alastair admitted that there were no direct financial incentives to take up any of the professional development or learning opportunities afforded by the QAS. Carl went a little further suggesting that, *"there's no real ... whether it's financial return or recognition or whatever, to say how well we do the job"*. A number of coaches suggested alternative ways to reward exceptional performance. Chris said *"*[if a coach] *identifies 'well I would like to get better at that', then the obvious thing to reward him would be, 'ok let's create an opportunity to educate him' ... To me, that would be a substantial reward"*. Clarke and Carl made similar suggestions about the need for thinking differently about the ways the QAS could foster learning for their coaches through the rewards they could offer. Rewards were thought to be an important workplace component and it was reported that a lack of meaningful rewards had the potential to directly inhibit learning by denying affordances and indirectly inhibit learning by decreasing coach personal agency.

Recognition.

Recognition was seen as being valuable from the perspective of coaches and administrators with Clarke, Craig, Alan, Aidan and Alastair all specifically referring to its importance. Despite acknowledgement of its importance, coaches and administrators

spoke of a lack of recognition for QAS coaches. Aidan said *"often the coaches don't get recognised but then I don't know that that is why they do it"*. This comment was interesting given the following statement from Craig: *"*[administrators] *get away with it* [not giving recognition] *because everyone knows coaches do it as a passion, but it's not good at all"*. This discussion is similar to the discussion regarding the salaries, in that it is clear that the coaches do not simply do the job because of the recognition that they may or may not receive, but it is clear that recognition is important to them. However, as opposed to salaries, recognition does not necessarily place high demands on the organisation's financial resources.

There were a number of ways in which the QAS coaches were recognised. The most obvious way in which the coaches were recognised was through the performance of their athletes, however, this works on the potentially flawed assumption that the QAS coach is principally responsible for the performance outcomes of the athletes. Similarly, there is an official QAS award for the team of the year but this excludes coaches of the individual sports.

A direct form of recognition for the QAS coaches was the formal 'coach of the year' award. Alastair noted that a significant issue was that because of the overwhelming focus on high performance, *"the chances of a developmental coach ever getting that award is problematic"*. This is a considerable limitation given the large number of developmental programs operating at the QAS.

For those coaches completing formal qualifications through the QAS, there was recognition in the form of certificates of completion. Having been personally present during the team briefings, I agree with Alastair when he said, *"we give out certificates at the team briefing but I think it is something that we can do better on"*. Another form of recognition suggested by Ashley was the appointment of QAS coaches to national

level or other representative positions as a form of recognition for the coaches. More widespread recognition was advocated by Aidan also who said *"*[seeking out learning opportunities] *should be celebrated and recognised whether it is in the newsletter, in publication, on the website, at some of the public functions that we have"*. He also suggested that recognition amongst coaching peers might be garnered through being invited to present at the coaches' meetings that follow the team briefings. Finally, as previously noted Chris proposed a formal system of recognition for the QAS strength and conditioning course.

Summary of reward and recognition.

Carl said *"you don't put in your yearly planner that you're trying to win the coach of the year"*. Comments such as this indicate that coaching awards and recognition are certainly not the driving force behind why coaches do what they do. Despite this, the majority of participants made it clear that reward and recognition of coaches was very important. Craig explained why he felt it was important by saying *"reward and recognition is more* [about] *making you feel like you are part of something and contribute to something"*. This emphasises the relationship between recognition of the contribution of coaches and their potential learning with the associated sense of belonging positively influencing their personal agency. If coaches feel valued and their contributions to the success of the QAS are more adequately highlighted, this has the potential to affect personal agency in ways that may lead coaches to engage in a range of learning opportunities.

QAS Physical Environment

The spatial dimensions of the QAS were not a primary focus of this research initially but it became clear that the physical arrangement of the QAS environment impacted on the learning of the coaches. Similar to discussions of the social environment of workplaces, physical space can not be considered to be merely a backdrop to the learning of coaches. McGregor (2003) argues that physical space may be seen as relational, both producing and being a product of interconnecting social practices. During 2003, the QAS changed premises. What follows is a discussion of the previous QAS facility, the current facility, and finally most attention will be directed towards the coach workstations allocated in the new facility.

New Facility

Regarding their overall impressions of the new facility, the participants were in agreement that it was quite good. For example, Alan described them as *"excellent"* and Aaron said, *"*[we] *have got world class facilities"*. There were some broader problems that were identified though. Charlie went on to say, *"even though it is a great facility, it was better located at the old facility at South Bank"*. Carl and Craig made similar statements about the problems associated with the time taken to travel to the new facility more than 13 kilometres from the city centre. This obviously has implications for the frequency with which coaches are willing to travel to the facility.

Andrew, Clarke and Calvin all made comments regarding the impact of the physical surrounds on the interactions between workers. Andrew said, *"this physical environment doesn't encourage the sorts of learning that I think are important at this level of coaching ... this place isn't good for informal meeting places"*. The location of coaches in relation to the sport science, strength and conditioning, and athlete career and

education staff had some impact on the regularity of contact but from the comments of the participants, it was difficult to ascertain the extent of influence. However, it is clear from the comments above that the physical arrangements at the QAS have had a significant impact on the interactions possible.

Sporting Facilities

For the majority of sporting programs, the sport-specific training venues were located away from the QAS. In particular, Chris, Craig and Carl spoke quite passionately about the need for sport-specific facilities at the QAS venue. Craig said, *"we are supposed to be an elite sporting agency in Queensland and we can't provide* [these facilities]*"*. While the relationship with coach learning is not immediately obvious, Craig indicated its relevance by saying, *"the locality* [of the QAS] *is not terrific ... but that's why I sort of think if we had a sport specific facility it would be worthwhile coming over"*.

Coach Workstations

Incorporated into the design of the new facility, were sufficient workstations for all QAS coaches. They were organised in an open-plan office space with four, corner workstations in each partitioned area. During the course of this research, the Sport Programs Managers changed their seating arrangement, moving from a more detached workspace at the end of the building, to the coaches' area. This meant that the Sport Programs Managers were located in a group of four desks adjoining the coaches' area.

Andrew said, *"*[the QAS] *have recognised the benefit of giving coaches a workstation in amongst others"*. Interestingly, all of the benefits that directly related to the allocation of coaching workstations were identified by administrators. Coaches

certainly identified the utility of speaking with other coaches and Sport Programs Managers as a source of learning, but only the administrators made the explicit connection with the workstations. Alastair said, *"there is more informal contact between the coaches* [now]*, because at South Bank we didn't have any housing for them"*. It can not be automatically assumed that this informal contact lead to dialogue which facilitated learning. Ashley made a comment that added support to the use of relational interdependence as a theoretical framework for understanding coach learning at the QAS. He said that, while communication across work units was a potential benefit of providing workstations for each of the QAS coaches, the degree to which people interacted at the QAS *"wouldn't be any better if the people didn't want it to be"*. This highlights the impact of personal agency in the learning of QAS coaches.

Aidan suggested that from a management perspective, *"it is nice to kind of know what they are up to a bit. Not that we are Big Brother or anything"*. It was interesting that he alluded to the notion of surveillance because a number of others mentioned this also. This specific aspect will be discussed later in this section.

Despite the potential benefits, with the exception of one coach and one administrator, much of the commentary regarding the workstations was negative. While having no specific solution to the range of identified issues, the coaches and administrators noted that something was wrong. Clarke said, *"I think that area out there for the coaches needs remodelling in some particular way"*. Chris was even more penetrating, saying, *"I really dislike the open planning for coaches"*. Ashley concurred saying *"as an open plan office it's not terribly good ... it was done very haphazardly"*. More specifically, there were a range of issues associated with the nature of coaches' work, the establishment of other office space prior to the development of the new

facility, the emergence of extra work tasks, and the design of the workstations themselves.

One of the major reasons cited by administrators for why the workstations were underutilised concerned the nature of the coaches' work. Because the coaches were required to work non-standard working hours, it was virtually impossible to have all coaches present at their workstations with any regularly. Ashley also noted the impact on coach learning by saying, *"it is ... the nomadic type of flow of coaches that hinders that extra cross pollination"*. Another problem that has previously been discussed is that for the majority of sport programs, the training venues are located some distance from the QAS facility at Nathan.

Administrator responses were unanimous in that they expected the coaches to have some kind of presence at the QAS facility, but they understood the realities of coaching work. For example, Alastair said, *"I don't want to see them in here from nine to five, I want to see them coaching"*. But regardless, there was some concern that the coaches were not making use of the allocated workstations. Ashley identified what he saw as a difference between coaches who had been employed by the QAS prior to the organisation's move to the new facility, and those that had been employed since. He said the *"newer ones, they say 'wow, this is great I'm going to work from here'"*. This difference is in part explained by the lack of office space at the previous facility. For this reason, many coaches established offices at their homes or were allocated space in the buildings of their respective sporting organisations. Carl summarised this sentiment saying:

> *you can see why a lot of the coaches just don't bother turning up ... there wasn't room at South Brisbane so they've set up their own offices either at the state sporting organisation or a home office, and feel that that's*

more productive time … spent … rather than trying to travel out here to be seen out here. (Carl)

There was also some suggestion that additional work tasks required attention when the coaches utilised the facilities provided by the QAS. Chris characterised the situation by saying, *"you seem to be putting out bushfires more often than you used to* [when you come into the office]*"*. Carl also gave this impression saying that, *"as soon as you turn up here … all of a sudden all of this other stuff just starts to … develop. All the phones and everything else"*. Referring to some recent time he had spent away from the QAS, Carl said, *"I got a whole lot more work done … being away from this office"*.

As previously mentioned, the physical environment at the QAS was a point of note. In his discussions, Calvin made specific reference to the coaches' area. When questioned regarding why he felt the coaches don't come in as much, he said *"maybe it is the environment, maybe it is a bit of a stark environment and it has become a bit more clinical looking"*. The perception that the physical environment at the QAS was uninviting probably reduced potential engagement with affordances at the workplace.

Aaron described the main issue with the coaches' workstations as a *"privacy come … noise thing"*. He suggested that when there are greater numbers of people in the coaches' area that *"you kind of get that noise pollution"*. Craig said, *"I would love to see the coaches turn up more, but I wouldn't like to see that when it did, it'd be extremely noisy"*. As a result of these distractions, Clarke said, *"I end up doing a fair bit of work at home on the computer"*. But aside from Craig's comments, it did not appear that it was the other coaches that proved to be the greatest distraction. One coach in particular noted that it was the Sport Programs Managers who were most distracting. The work performed by the Sport Programs Managers requires them to be present in the office in keeping with standard hours of work, and also requires

discussions concerning a range of coaching matters. From the interviews, it appeared as though there were conversations the Sport Programs Managers did not wish the coaches to be privy to, and that similarly, the coaches had conversations that they did not necessarily wish the Sport Programs Managers to hear. In summary, the administrators and coaches identified the need for greater privacy with both groups adjusting their work habits to achieve this.

Related to the issue of privacy is the notion of surveillance. While I did not get the sense that this was an intention of any of the administrators, it was something that was identified by the coaches. Administrators too acknowledged that they were aware of the coaches' feelings. Aidan said, *"when we first moved here there was that, there was kind of the coaches' attitude 'oh they want to know where I am and what I'm doing and stuff'"*. The coaches' position was summarised by Chris who said, *"you always feel that you have to be tapping on a computer or something* [in the open plan arrangement at QAS]*"*. As a result he concluded that the QAS workstation environment was *"not conducive to sitting and thinking and really thinking things through"*. It is precisely these kinds of ruminations (Atkinson & Claxton, 2000) or internal learning situations (Werthner & Trudel, 2006) that have been linked to the deep learning and understanding associated with creativity and problem solving. However, the perception of surveillance is likely to thwart such reflections.

Summary of the Physical Environment

The notion of affordances must be considered to be wider than specific sources of learning because the physical and operational characteristics of the workplace were reported to have a significant impact on coach learning. While the degree to which learning was enhanced or inhibited for each coach was less clear, the physical

affordances provided by the QAS served to direct and shape the experiences that were possible and desirable for coaches (e.g., discussions with other coaches and sport science staff). The resulting coach engagement with workplace experiences determined the learning that was and was not possible.

Other Significant Issues

Turnover of Coaches

During the course of the three-year study, there was a greater than a 50% turnover of coaches at the QAS. When I raised this issue with Ashley he acknowledged that *"it has been an unusually high time* [of turnover for coaches]*"*. When questioned about the reasons why coaches were leaving, Ashley suggested that there was nothing particularly systemic or problematic regarding the QAS specifically. Similarly, Alastair believed that it was simply the fact that QAS coaching positions were only one step in the coaching pathway. He said, *"this isn't the end of the road for them. It is a stepping stone to something else"*. Andrew was far more critical when he said, *"*[the coaches] *don't feel this organisation values them. They don't feel valued, they're not fulfilled, they leave"*.

A number of administrators believed that the turnover was simply as a result of the QAS' position in a coaching pathway. For these individuals, there was a sense of resignation regarding coaches leaving the organisation. Alastair said, *"if we get two, three, four years out of them then I am happy. Longer if preferable if they are good coaches"*. Given the pervasive nature of the acquisition metaphor of learning, it was somewhat unusual that no administrator made reference to the 'loss' of accumulated knowledge each time a QAS coach moved on. Rather, the emphasis seemed to be

directed more towards finding coaches of an acceptable standard to fill vacant positions. Alastair said, *"I want to know where the next one is coming from and right now in most sports we don't"*.

Given the fairly widespread acceptance that coaches will regularly leave the QAS to pursue other coaching positions (and other vocations), I questioned the administrators about their reservations in providing professional development for coaches who will most likely move on in the near future. Alan said, *"yep,* [I have reservations] *because they acquire knowledge and the leave the system ((laughs)) ... Move onto professional sports or go on and take that intellectual property, they take that knowledge, and go. Whether it be overseas or elsewhere"*. Along with Aaron, Ashley took a different view, saying, *"I know that's a double edged sword but ... it is not necessarily a gamble ... it is short term pain but you are happy if people progress and be given the due recognition they deserve"*. He also noted that the QAS received positive promotion from coaches moving to higher profile positions. It appeared then, that while some administrators had reservations about offering certain professional development opportunities to coaches, there was not a sense that it affected the actual provision of any opportunities.

Additional Barriers for Women

The number of females employed as coaches at the QAS was extremely small with only two employed at the beginning of the study. At the time of writing, there was only one female coach currently employed at the QAS. While this was not a specific focus of the research, it would be remiss not to give some account of the additional barriers that have been shown to exist for female coaches. The absence of significant numbers of female coaches at the elite level has been noted by a variety of researchers

(e.g., Dickson, 2001a; Kilty, 2006; Lyle, 2002; Mercier & Werthner, 2002; Sherman & Hume, 2002). Women are not only under-represented with respect to their male colleagues, they are under-represented with respect to their participation statistics (Kilty, 2006; Lyle, 2002; Weiss & Stevens, 1993). A significant issue for the QAS is that the under-representation of women means that the overall numbers of potential QAS coaches is reduced. Obviously a number of issues need to be addressed 'downstream' in the various sporting systems, but given the relationships that the QAS maintains with a variety of state and national sporting organisations, and the vested interest it has in maximising the pool of coaching talent from which it selects its coaches, there may be direct and indirect roles for the QAS in the development of female coaching talent.

Summary of Affordances

Overall, the data from the QAS coaches and administrators lends strong support for Billett's notion that the organisational affordances significantly impact on the learning that is possible for workers. Indeed, the theory of relational interdependence accounts for the sources of learning the QAS coaches engage with through the workplace, with the exception being the sources of learning that are external to the QAS that coaches continue to engage with during their employment. However, the concession should be made that it is their current work and interests that direct their continual engagement with these sources that are more external to the QAS. As noted in the chapter concerning life histories and sources of learning, the primary source of learning external to the QAS was previous coaching experience, while the secondary sources included experience as an athlete, broader life experience, self-directed reading and other (i.e., non-QAS) coaches. Minor sources included formal tertiary study,

NSO/SSO offerings, watching televised events, visiting other AIAs and current and former athletes.

Regarding the sources of learning specific to the QAS, primary sources included generic offerings (e.g., full-time employment, internet access) and other members of staff (e.g., sport scientists, other QAS coaches). Secondary sources included the information centre and QAS courses. As seen in this chapter, there are a range of other affordances that were thought to be significant aside from these sources. Factors associated with the operationalisation and working climate of the QAS were reported to be of great significance to the learning that did and did not occur at the QAS. Similarly, the physical environment was thought to be a significant factor in the learning of the coaches.

One of the criticisms of other theories of learning that Billett (2006b) noted is that there has often been an uncritical privileging of the immediate social contributions to changes in cognition. The argument is that while these other theories of learning allow investigation into the social processes involved, they fail to adequately account for how individuals engage with immediate social influences or provide adequate bases for understanding the influences of premediate experiences on that engagement (Billett, 2006b). Given my interest in accounting for a range of idiosyncratic experiences in the QAS coaches' personal histories, the personal agency component of relational interdependence was thought to be a real strength.

Personal Agency

It must be acknowledged that situational factors alone are insufficient to understand workplaces as learning environments (Billett, 2001a, 2004c, 2006b). Billett (2006b) argues that the degree of social suggestion encountered in the immediate

experience is not uniform nor is it uniformly compelling. For this reason there is a definite need to understand the way individuals' agentic action and intentionalities shape how they participate in and learn through work (Billett, 2001a, 2004c, 2006b). Said another way, individuals decide how they participate, how they respond to guidance, and what they construe and learn from their experience (Billett, 2001a, 2004c). The QAS coaches clearly exercised their personal agency when deciding which activities to engage in and the degree of their engagement. In addition to exercising their personal agency in a variety of ways, the QAS coaches cited a range of factors that served to influence and direct their agency.

The overwhelming consensus was that individuals preferred to learn in different ways and that the opportunities provided should mirror that. Aaron, Aidan and Alastair believed that the coaches' preferences were based on their personalities or the kind of person they are. Andrew said, *"it would depend where they have come from"*. Andrew's view certainly fits well with the notion of relational interdependence and the shaping of personal agencies through an individual's personal history.

The coaches and administrators made some general comments regarding personal agency. They most often used the term 'motivation'. Given that this thesis is not examining this term in the same way a psychology-focussed thesis might, I propose that 'motivation' be used simply as an analogous term for personal agency. In this way, the intricacies of what underpins the comments by the coaches and administrators might be discussed through the concept of personal agency without the need to connect with the myriad of motivational literature.

The link between personal agency and learning was articulated by some of the participants with Aidan saying, *"it is easier to do something when you are motivated"*. Ashley suggested that, *"learning is about self motivation … personal / professional*

development needs to be self-initiated, it needs to be self-driven". This emphasises the perspective that the desire to learn and indeed learning itself must be derived from the individual. This is why the notion of personal agency is so useful in examining the learning of coaches at the QAS. It was felt that this desire to learn was a fundamental personality trait of the QAS coaches. Andrew said, *"I don't think you have to motivate them to learn. It is intrinsic* ... [wanting to learn how to do things better is] *a fundamental, innate motivator within the sorts of people we're talking about"*. Chris echoed this sentiment by saying, *"I have a fundamental confidence that each coach in here would really like to keep improving"*. So the point that can be made is that although the coaches and administrators believe that the desire to learn must come from within, the component skills of self analysis and self awareness identified by Ashley can surely be improved or developed through engagement in QAS afforded learning situations.

Influences on Engagement

Across a range of learning opportunities, the QAS coaches and administrators cited various positive influences that led to their engagement. It should be noted that these ranged from being largely external to being predominantly internal to the individual.

Coaching Contract

Regarding the potentially positive impact that short contracts may have on the personal agency of the coaches Ashley said, *"what gets coaches to learn is a realisation of their window of opportunity, a realisation of where they can make their biggest impact with themselves professionally, personally and with athletes"*. I must admit that

this was not a perspective I had previously considered. My thoughts had always been directed towards the counter claim that given the limited time frame of secure employment, the coaches may be less likely to pursue learning opportunities beyond those presented through their immediate coaching environment. Ashley also conveyed this scenario during the interview and this will be discussed in the section addressing the influences on reduced engagement.

Other Coaches

The potential for other coaches to be a source of motivation for learning appeared to be somewhat limited. In general, it was restricted to simply not looking foolish amongst peers. Interestingly, two of the administrators noted a more competitive relationship that might affect levels of personal agency. When speaking of his time as a coach, Ashley said, *"my learning never stopped because I wanted to be in a position to be able to challenge national level coaches on what they were doing"*. Alan noted that something that might motivate the QAS coaches to learn was *"to be able to talk to their peers and try and get one up on them"*. The extremely competitive nature of coaching may mean that the kinds of people who are drawn to this work are driven to be better than their peers in ways that are less prevalent in other spheres of work.

The Sport

The particular sport was also felt to have some influence over the learning of the coaches involved. The influence of the sport appeared to be related more to the domains in which the coaches felt compelled to pursue (i.e., the content) rather than the

need to learn per se. For example, Charlie said, *"for this sport, it's such a heavily physiologically-based sport, learning more about that side* [is important]*"*.

Athletes

The single most significant external reason to continue to learn that the QAS coaches cited was the athletes. It might be argued that improving athlete performance is also somewhat internal to the coach given how athlete success reflects on their coaching abilities. It did, however, appear as though the coaches gained much joy and personal satisfaction from seeing the athletes in their charge improve. Interestingly, none of the examples the coaches or administrators cited referred to winning nor did they speak of medals or championships. When questioned regarding what drove his efforts to learn at the QAS, Craig simply said, *"the athletes"*. He elaborated by saying,

> *Yeah, their development … seeing them get better … sometimes you go through a year and they don't get any better … and then you'll find something and suddenly they will go through … and that's really rewarding.* (Craig)

The administrators agreed with the notion of athlete improvement as an overall goal regarding the learning of coaches. Aaron said, *"that's the thing that motivates them, when they see the athlete getting better … 99% of the coaches we get here, that's why they are here"*.

Personal Qualities

Having already discussed the notion of personal satisfaction related to athlete improvement as a reason that QAS coaches want to learn, I will not make further reference to it in this section. There were a number of other factors that reportedly had

a positive effect on the personal agency of the QAS coaches with respect to their learning. While individuals engage in work in ways that exercise their agency, QAS coaches were influenced by their subjectivities and identity. In a variety of studies across different work contexts, Billett (2006b) noted that individuals want to be seen as performing effectively, often gaining a sense of identity and sense of self through their work and its relationship to their lives in the community outside the workplace. Indeed their sense of self and identity is tightly linked to how they think about and engage in their work (Billett, 2006b). This appears to have great applicability to the coaches and their all-encompassing approach to carrying out their work.

One of the reasons coaches gave for wanting to improve their practice was because their sport was a passion or personal interest. This is certainly not unexpected given the type of people who engaged in full-time coaching and the state of the current career path for these individuals. The volumes and types of experiences previously described indicate that these individuals are highly interested and passionate about their chosen sports. When asked about why he wants to continue to improve his coaching, Craig said, *"I do it for passion, I don't do it for money or anything. I do it because I want to"*. Ashley also spoke of the need for passion to drive the development of coaches saying, *"it is the passion for the sport. If you don't enjoy it you are not going to learn it"*. While not using words as strong as 'passion', Charlie indicated similar feelings when he said, *"it is an interest more than anything* [that drives my efforts to learn]*"*. He went on to say, *"I enjoy trying to find out more about any topic associated with coaching ... I find it enjoyable and I find it interesting"*. This consistent quality of highly driven or passionate QAS coaches indicates that they are motivated to learn in, through, and about their work. It was clear that the QAS coaches have an extremely high commitment to the work that they perform. Their personal identities appeared to

be very closely tied to their coaching work and as such it might be argued that the subjectivities and identities of these individuals may be even more important to the learning that occurs than in other domains of work where working and personal identities may be more divergent. Less intense was their commitment to their position as a QAS coach.

In addition to having a specific personal interest or passion in their chosen sport, there was some suggestion that the QAS coaches were driven to be the best. Alastair provided an administrator's perspective saying, *"one of the motivations has to be that they want to be the best"*. Three other administrators made similar statements and it appeared as though, for at least two of the interviewed coaches, that this was the case. Craig said, *"I am always going to learn from whoever because I want to be the best"*. Clarke was equally as ardent saying, *"I want to be the best in my sport"*. Other coaches were less direct but nevertheless indicated that improving their abilities to perform their work was something that they strived for. Again, this suggests that for many coaches, their identity is closely tied with being successful (and for some this meant being the best).

When questioned why he felt compelled to continue to learn and improve Clarke said, *"you don't want to be ignorant or boring"*. Chris said *"it is all very well to keep it simple but sometimes you have to ... consider enough information to make sure it* [your decision] *is accurate and complete"*. As well as making a strong point, this comment alludes to the need for innovation and continued improvement. The theme of constant change that was alluded to in the chapter on coaching work was summarised by Aaron's comment: *"people change, times change. You've got to change with it as well"*.

The final personal reason for learning that was cited referred to career progression. Aaron, Alastair and Ashley all discussed moving to national or at least higher paid positions as a motivator for coach learning. Aaron's statement was reflective of all of their comments: *"you could probably think that long term it* [accessing various sources/improving their coaching] *may help you get a national job or get something a bit longer term"*. Interestingly, it was only the administrators that made mention of learning for career progression. It is possible that the coaches were not comfortable enough to discuss their exit from the organisation with me during the interviews. It may also be the case that the coaches' attention was directed towards learning whilst in the employ of the QAS and simply chose not to discuss future career options. Finally, it may be that the administrators were somewhat out of touch with the goals and aspirations of the coaches. It may be the case that QAS coaches would be quite content to stay for longer periods of time within the organisation, but because of the view of the administrators and the subsequent employment conditions, they are essentially forced to look elsewhere for future employment.

Influences on Reduced Engagement

Having detailed the range of comments coaches and administrators made regarding the factors that positively influenced the coaches' engagement in learning about their work, the coaches and administrators spoke equally as strongly about a range of factors that caused reduced engagement. These factors related to the terms of the coaching contracts, levels of current success, perceived apathy or stagnation, time constraints, prioritisation of other work, having nothing to gain and being unaware or threatened by various sources.

Coaching Contract

Having said that the short time frame of the coaching contracts may act as motivation for coaches to develop their skills in the previous section, Ashley went on to speak of the potentially negative impact on the learning of coaches. He said *"*[not knowing whether you will have a job at the end of the contract] *is a terrible, de-motivating thing for most coaches and unsettling as well"*. Given the relatively short-term focus of their contracts and also the many new tasks that beginning QAS coaches must learn to perform, the impression I formed was that there would not be much scope for coaches to achieve meaningful learning beyond that associated with coming to terms with the processes of the organisation, and beginning to understand the athletes they are working with (which, as previously described, have been highly prioritised by the administrators and coaches respectively).

Current Success

Alan said, *"they are achieving success and can be the worst coach in the world and have great athletes"*. While it is unclear whether this is the case with any of the QAS coaches, it must be acknowledged that the existence of coaches who are working at less than optimal levels is certainly a possibility. Aidan conveyed that he hoped this was not the case but conceded that *"depending on where they are within the cycle of international competitions, you don't want them to get a bit cushy and soft and not continue to learn and grow and push the envelope"*. Alan was somewhat more forthright suggesting that *"we have a few coaches that maybe a bit stale. They just sit in their comfort zone and because the program is nationally driven they just pick up a few little pieces here and there"*. At its heart, this comment relates to fact that coaches

are globally evaluated by the organisation with respect to the results their athletes achieve. From this perspective, it is easy to see how the organisational climate, in this case being unashamedly results-focussed, can impact on the personal agency and therefore the potential learning of the coaches.

Perception of Apathy

Related to the issue of current success, both Alan and Ashley suggested that it was apathy that stopped a number of coaches from engaging with different sources of learning. Specifically, this issue refers to what Alan described as coaches becoming *"lazy and in their comfort zone"*. He explained that from his perspective, this was the reason some coaches chose not to engage with a variety of different learning opportunities provided by the QAS. When questioned further about why some coaches chose not to engage Alan said *"I believe that if a coach asks for it they normally are allowed to go but my concern is that many don't ask"*. Ashley was a little more derisive saying that the reason some coaches did not make the effort to propose or initiate activities was because *"I think they [coaches] want to have a whinge about something that they need"*. Similar to Alan's comments, Ashley suggested that if there was something that was realistically (in his opinion) going to make a difference for that particular coach, they would be allowed to do so *"but they don't get off their arse and help facilitate it"*.

Lack of Time

This was a major theme discussed by QAS coaches and administrators and is one that requires further consideration. Alastair stated that *"certainly time* [is a barrier to accessing sources]*"*. While the coaches generally

acknowledged a need to continue to learn, when asked why they chose not to engage with certain learning opportunities their response often revolved around there not being enough time to do so. For example, Calvin said, *"we are so busy going about our day-to-day business that we don't really look outside what we are doing"*. It is clear from the coaching chapter of this thesis that, if executed in its fullest sense, the work of QAS coaches is extremely time-demanding. What should not be overlooked is the fact that despite the complex and often chaotic (Bowes & Jones, 2006) nature of coaching work, some coaches are in fact able to be involved in a range of learning activities. This suggests that perhaps it is not that there is insufficient time available, but rather that some of these opportunities are not highly prioritised by the coaches. Andrew more or less made this same point saying, *"if something is really good they will make time to access it because they can see that's a way of fulfilling their primary purpose"*. From the comments of the coaches, it seems that what constitutes their 'primary purpose' is constructed by the individual coach in relation to the QAS-defined work tasks and their personal subjectivities and intentionalities.

Not a Priority

Ashley's explanation for why coaches do not take up some of the opportunities available was of note. He said, *"whether it is timing, whether it is motivation, I just think it is an impasse on what they want to do at that time"*. The core of this argument is that coaches chose not to highly prioritise certain activities and that for some: *"*[professional development] *is probably a nice to do but not a need to do"* (Ashley). This obviously begs the question 'why do coaches choose to prioritise their work in this way?'. Aidan believed that it was partly a financial decision, with coaches not

connecting with certain opportunities in favour of using the available funds for their athletes. It should be noted that Aidan was the only participant to mention this aspect.

Some particularly strong comments regarding why certain opportunities were not prioritised came from the coaches. Chris said that, *"I do what I am rewarded for"* with the implication being that learning was not particularly well recognised or rewarded by the QAS. Carl specifically mentioned what he is rewarded for when he said, *"you've got to start focussing on ... what's going to give you the biggest return as far as athletes that are heading through to senior national teams"*. As in the discussion regarding current success, it can be seen that the organisation's strong emphasis on performance outcomes has the potential to reduce the prioritisation of learning activities. The problem appears to be the emphasis on relatively short-term and immediate outcomes for these coaches. Because of this, they may be focussed on the day-to-day optimisation of their work rather than taking a more strategic and longer-term developmental view. In short, the need for short term results inhibits learning beyond the immediate experience. While expressing his intention to continue to learn in his work, Craig posed the question, *"certainly I could get off my butt and do more and request stuff but is that really my role?"*. The implication is that perhaps it is others who should be sourcing and providing different learning opportunities for these coaches. The following comment from Alastair provides some acknowledgement by administrators that some coaches certainly do think that way: *"the feeling probably 'oh it's not part of my job description'* [is a barrier to accessing sources]*"*.

Finally, a slightly different perspective was provided by Andrew regarding how busy the coaches are and the prioritisation of work tasks. He said, *"the coaches are too busy doing things they shouldn't be doing, or I don't think they should be doing, to allow them to do things they should be doing, which is the learning"*. As explained in

more detail in the administrative maintenance section of this thesis, Andrew was referring to a number of generic or administrational tasks that coaches are required to perform, which are somewhat time-consuming and, as he argues, could potentially be done by someone else under the direction of the coach. This is a point that is slightly controversial as the expectations of the administrators regarding the work of coaches are fairly well established in this respect. The overall contention from a number of coaches and one administrator was that by decreasing the number of administrative tasks that the coach is responsible for will allow more time for engaging in meaningful learning opportunities.

Nothing to Gain

The view that was put forward by two of the coaches was that in fact, there was little to gain from many of the opportunities currently available at the QAS. Clarke characterised the time pressure while explaining that QAS coaches already have a reasonable level of expertise in the following statement: *"there are only 24 hours in a day and while we should all be out there learning we are in the position we are in because we have a certain amount of knowledge and expertise to start with"*. It is also possible that the coaches were simply not aware of how beneficial the learning opportunities may have been or perhaps even how best to learn from these experiences. From the interviews it was evident that it is not simply a matter of learners taking on what is provided or offered, it is the coaches' perceptions of the value of these affordances that constitute the learning that is possible.

Ego-threatening

Within the previous discussion of administrative staff as a source of learning within the QAS, it was noted that a possible barrier to learning within the organisation was the potentially threatening nature of revealing areas of weakness to other members of staff. Aaron's comment about a coach not wanting to look like *"an absolute dill"*, was a significant comment in the context of coach learning. Aidan said, *"coaches have egos, and I think some of the better coaches have bigger egos* ... [a possible barrier to learning is] *being seen to be a bit inexperienced in something and being a bit afraid to ask"*. Ashley countered this suggestion saying, *"I don't think it* [why coaches didn't take up PD opportunities] *was because they didn't want to show that they weren't experienced or their weakness or whatever"*. Rather, he suggested that it was due to a number of other reasons such as the coaching contract, a lack of time and other reasons discussed previously.

Unaware

A final issue stated by the coaches and administrators related to the coaches' lack of awareness of what learning opportunities actually exist within or through the QAS. Chris was quite philosophical about the situation saying, *"I'm at the stage where I don't know what I don't know"*. He went on to say that, *"there is probably a mountain of stuff out there that could be useful to me but I'm in ignorance of it"*. There is a sense of helplessness in this comment with the obvious question being 'how can a coach become aware of what s/he doesn't know?'. It might also be noted that that at least Chris was aware of this limitation whereas it is possible that other coaches are completely unaware of their predicament or are in denial.

Summary of Personal Agency

Both Clarke and Calvin said that if there was something they really wanted, they would find a way to make it happen: *"if I think that there is something that can improve me then I will go ahead and try and do it or try and examine a way to do it"* (Clarke); *"if I thought there was something that really needed to be provided with I would probably say something or do something about it"* (Calvin). An insightful quote that summarises this sentiment precisely was made by Aaron when he said, *"people kind of somehow make it happen because they want to make it happen"*.

Perceptions of the workplace's affordances consequently reside with the individual. Their agency determines how they construe what the workplace affords and how worthy it is of their participation (Billett, 2004c). This is an important factor because as noted in the QAS context, even if organisations provide what they consider to be sufficient material resources and opportunities, it is the individual's perception that determines the value of these affordances. As noted previously, there were a range of affordances and opportunities that were not taken up by the coaches. Aaron provided a potential explanation saying, *"after a period of time a coach works out what works for them and what doesn't. Or what they like and what they don't like"*. Similarly, Andrew said, *"if it was any good and they felt it was benefiting them they would access it more"*. It is this final point by Andrew that counters some of the claims by coaches and administrators that the QAS coaches may not have enough time to engage in meaningful learning. While it is acknowledged that these coaches are 'time poor' it is the prioritisation of other activities ahead of specific learning activities that is the issue. In keeping with this, individuals will also engage in ways that best serve their purposes, such as assisting their career trajectory, securing opportunities, or even locating easy work options (Billett, 2004c).

It should be noted that perceptions of, and subsequent engagement with what the workplace affords the individual are founded in their personal histories (Billett, 2001a). The kinds of social experiences individuals have throughout their life history contribute to what constitutes their subjectivity and identity and shapes their agentic actions (Billett, 2001a). The subsequent suggestion has been that premediate contributions need to be included in accounts that attempt to explain the social geneses of individuals' cognition (Billett, 2006b). The information collected in the face-to-face interviews allowed a better appreciation of the coaches' athletic, coaching, educational and occupational experiences. Billett (2004c) argues that personal histories are uniquely socially-shaped through participation in different social practices throughout life histories, and as a consequence, engagement in and learning through work will always be unique in some ways. This certainly appeared to be the case for the QAS coaches given the range of sports they had been involved in and the massive variation in their previous experiences within their sport and throughout their lives more generally.

For the QAS coaches, potential barriers to learning that their personal agency must overcome extended far beyond overcoming apathy or accessing 'difficult to find' opportunities. The fundamentally competitive nature of elite sport performance and high performance coaching means that sources that are highly valued by coaches (e.g., learning from other coaches) are also extremely difficult to access. Interactions are typically guarded and the kinds of generative relationships that coaches require at the high performance level take extremely long periods of time to establish. While this issue may appear to be primarily associated with the affordance (the particular source), in actuality it is a personal agency issue for the QAS coaches given that the nature of the affordance is unlikely to change (i.e., the guarded and highly competitive nature of high performance sport is unlikely to change in the near future). For this reason, it is up to

the particular coach regarding how persistent and open they will be in fostering these interactions. While competitive aspects are present in a range of vocations and professions, it is the unequivocally competitive nature and regular comparisons of achievement present in coaching work that render the sport coaching workplace unique.

While the contribution of personal agency was evident throughout the careers of the QAS coaches, the actions it directed and the conviction with which the coaches pursued opportunities appeared to fluctuate depending on their career and coaching circumstances. As a general rule, the more secure and comfortable the coaches felt in their coaching and employment status, the stronger their personal agency appeared to be. Given that I have previously established that the individual's perceptions of the workplace are critical to learning it is perhaps unsurprising that coaches are most reluctant to engage during periods of threat or insecurity. This might be viewed as highly problematic given that coaches may require the greatest learning assistance when in positions where they feel threatened or insecure. Billett (2004a) contends that a person's agency is shaped through unique processes of engagement and negotiation with social suggestion of different kinds and intensity throughout their life histories. Given that it is shaped in this way, perhaps personal agency may be characterised as having different forms and intensity during a person's life. It may be however, that personal agency remains relatively constant (while in a constant state of transformation) but the ways in which it is enacted are influenced by the particular social context and circumstance. Regardless, it is clear that along with the organisational affordances, the personal agency of the QAS coaches is a critical factor in relation to the learning that does and does not occur.

Nature of the Relationship - Interdependence

Throughout the sections detailing the affordances made by the QAS and the personal agency of the individual coaches, I have made reference to the important contributions that each of these elements make to the learning that does and does not occur within the QAS workplace. I have also alluded to the relationship between these components and it is appropriate at this time to summarise this interaction in relation to the overall notion of relational interdependence. Billett (2006b) notes that there are a range of perspectives given regarding the influence of personal agency and social press ranging from accounts where individual agency is seen as illusory (e.g. Bourdieu, 1991; Foucault, 1979), to perspectives that grant individual autonomy (e.g. Goffman, 1990; Rousseau, 1968) and to perspectives that acknowledge interaction between the two (e.g. Berger & Luckman, 1966; Bhaskar, 1998; Giddens, 1984). Billett (2006b) himself advocates a consideration of the interdependence between the individual and the social when describing learning through engagement in work practices. The key premise is that neither the social suggestion nor individuals' agency alone is sufficient to promote learning and the remaking of the cultural practices that constitute work (Billett et al., 2005). This premise is strongly supported by the findings of this research given the previously described influence of both the affordances of the QAS and the personal agency of the coaches.

Billett (2006b) proposes three forms of influences that serve to interdependently shape individuals' cognitive experience. The three influences include premediate influences of cultural practices over time (e.g., subjectivities), immediate social experiences (e.g., situational contributions), and postmediate* experiences (i.e., how subsequent experiences are constituted). It is for this reason that relations between the individual and the social world might be best understood as operating in parallel and

through negotiation, where the immediate and premediate combine and shape the postmediate experience (Billett, 2006b). Again this serves to emphasise a lifelong perspective when considering the learning that has or has not occurred, is or is not currently occurring and finally, the learning that may or may not occur in the future. The premediate experiences of the QAS coaches were found to be extremely influential regarding the learning that they valued and the degree of their engagement. The coaches' personal histories served to shape their personal agency which in turn directed their engagement with the social experiences (i.e., directed their learning). This highlights the interdependent nature of the relationship between these three elements.

As seen in the section immediately preceding this, the personal agency of the individual was critical to the learning that did and did not occur. But this agency did not act in isolation. In other words, the organisational affordances interacted with the individuals' personal agency in ways that may be considered to be interdependent. Indeed, the invitational qualities of the QAS workplace affordances influenced the involvement of the coaches and these qualities and affordances included the types of activities individuals engaged in (i.e., the work tasks that were valued); the direct and indirect guidance accessible (e.g., tiering of access to sport scientists); the duration of participation (i.e., related to contract length); and how the activities related to individuals' existing knowledge base (also incorporating their interest). In short, QAS affordances were made in ways that served to alter (positively or negatively) the agency and subsequent engagement of the individual coach.

What was not immediately obvious in the QAS results was how the individual's agency served to alter the affordances made (i.e., the reverse relationship to that described in the preceding paragraph). However, on further examination it did appear that for coaches who had actively pursued a range of developmental activities (e.g.,

Charlie and Clarke), that additional opportunities had presented themselves and administrators appeared to be more forthcoming with support. It was also somewhat evident that once certain opportunities were successfully provided for a particular coach, that other coaches generally enjoyed increased accessibility to that opportunity (or type of opportunity). A stronger and more obvious indication of how individual agency served to alter the affordances offered was with respect to reduced coach engagement. When coaches failed to engage with certain affordances, these affordances were not promoted or were often times removed. In these examples, the agency and affordances are interacting in interdependent ways in relation to coach learning. It might also be seen that this interdependence is not uniform and nor could it be considered to be reciprocal or joint. As Billett (2006b) contends, this interdependence might best be characterised as being relational. This situation might almost be characterised as being cyclical in that organisational affordances influenced personal agency and personal agency influenced affordances (positively and negatively)

The examples in the above section and those provided throughout the body of this thesis may also be seen as partial evidence for the active remaking of culture within the QAS. There may be a number of reasons why evidence of this transformation of culture was not stronger in this study. Perhaps changes are simply more difficult to achieve in sport settings where firmly entrenched traditions and the dominant structures make transformations difficult (i.e., they are more easily resisted). Alternately, perhaps it was because the short time-frame and scope of this research that the questions asked did not adequately capture the transformations taking place. In any case, I feel it is still reasonable to suggest that similar to Billett's (2006b) descriptions of generational cultural change, the QAS coaches do not merely reproduce vocational practices. They

elaborate, refine and remake them as they engage and interact with socially determined work tasks (Billett, 2006b).

CHAPTER 5 CONCLUSIONS

The major research questions for this project were related to three main areas: the individual, the workplace and the interaction between the two. The data gathered during the face-to-face questionnaires was not statistically powerful, but this was not the intention of the face-to-face questionnaires. Instead, it served the dual purposes of providing detail about the premediate experiences of the coaches and allowing me to establish a professional rapport with these individuals. Both of these aspects helped to strengthen the data gathered in the semi-structured interviews. It is my belief that to use these data for anything more than discussing general trends or areas for future enquiry would be problematic. To allow comparisons across sports, the format of the face-to-face questionnaire was quite generic in nature. This meant that some of the questions were less relevant for certain sports and there were some difficulties in obtaining confident responses from the participants as a result. So while the information collected in the face-to-face questionnaires was highly relevant and quite useful regarding the premediate experiences of the coaches, the claims made were necessarily quite conservative.

Regarding the data from the semi-structured interviews and the thesis document in general, I must acknowledge, like Jones and colleagues (2003), that in the end this thesis represents a story constructed by me. As such, my own personal history has led me to interpret and present the data in the ways seen in this thesis. There is certainly no assertion that the information presented here is the 'truth' (Locke, 1989). Rather, my aims have been to offer myself as the primary instrument of inquiry and to present these finding in sufficient detail so that others might judge the insightfulness of this work.

Armour and Jones (2000) commented that coaches act both as they choose and how they are influenced to choose. Billett's theory of relational interdependence fits

well with this notion. The kinds of activities that individuals are invited or able to participate in will have consequences for what is learnt at work (Billett, 2001a). The other consideration is that how individuals engage in work activities will also determine the quality and nature of their learning (Billett, 2001a). The methods employed in this study allowed a strong consideration of the affordances of the QAS workplace and also facilitated the detailed descriptions of the ways in which the coaches elected to engage, construe and construct what they were afforded. It should also be acknowledged that as a result of this research a comprehensive report was generated specifically for the QAS. This report included a series of recommendations, a summary of which can be found in Appendix H of this thesis.

QAS Coaching Work

By adapting MacLean and Chelladurai's (1995) dimensions of coaching performance, I have previously given an account of the wide variety of work tasks that the QAS coaches were required to fulfil. While this demonstrated some of what the coaches did, it did not completely capture the complexity and difficulty inherent in their work. There was a need to provide additional descriptions so as to better characterise the depth and subtleties of their work. The QAS coaches performed a range of higher order tasks associated with Lyle's (2002) functional roles of constraints management and strategic coordination. Part of the complexity inherent in coaching, relates to the fluid nature of the activity and this was certainly a feature of the work of QAS coaches as recorded throughout this study. These discussions represent a concerted effort on my behalf to advance the descriptions of 'what' coaches do so that there might be a clearer understanding of 'where' and 'why' they do it, with the eventual aim being to connect this with 'how' they learn to do it.

Affordances

Sources of Learning

There were a range of potential sources of learning that the participants identified that I loosely classified as being external to the QAS. The primary source of learning external to the QAS was previous coaching experience, while the secondary sources included experience as an athlete, broader life experience, self-directed reading and other (i.e., non-QAS) coaches. Minor sources included formal tertiary study, NSO/SSO offerings, watching televised events, visiting other AIAs and current and former athletes. While they were nominated here as being external, for some of the sources, the QAS certainly had an influence over whether or not it was attractive to engage with these sources while employed at the QAS. As mentioned previously, while the interview questions adequately captured information related to these sources, the notion of relational interdependence was less accommodating of them. For those that were accessed prior to employment, there was strong acknowledgement of them in the consideration of the premediate experiences of the coaches. For those sources that were largely external to the QAS that the coaches still accessed, it was less obvious where they were positioned with respect to relational interdependence. It is clear that the QAS still had some influence regarding whether or not it was attractive or even possible to engage with these sources in meaningful ways. For example, the QAS may recognise participation or provide sufficient time or flexibility to engage with these sources, with the opposite also being possible. Given the workplace focus of the concept of relational interdependence, it is logical that the sources of learning that are external to the workplace are not given much consideration. I would not advocate an expansion of

relational interdependence to include these elements given the primary purpose of facilitating the examination of the workplace and the learning that occurs within it.

There were a range of identified sources of learning that the QAS is more directly responsible for. The sources of learning reportedly provided by or through the QAS included a range of staff members (e.g., other QAS coaches, QAS managers, various support personnel), and other structures such as the information centre. It also included the provision or support of courses and other developmental activities. There were also broader organisational affordances that impacted on coach learning in the areas of policy and the physical environment. These aspects were well accounted for within the notion of relational interdependence, with the component of organisational affordances allowing thorough examination and analysis of this area. As mentioned previously, the concept of affordances facilitated the examination of these aspects in this thesis and equally, the results of this study provided support for the interdependent nature of the relationship between organisational affordances and individual agency.

Regarding the experience the coaches gain while directly coaching at the QAS, it has been stated repeatedly that experience is a necessary but not sufficient condition for expertise (Côté et al., 2005; De Marco & McCullick, 1997; Gilbert & Trudel, 1999). There are a range of sources of learning that are available for the coaches either directly from or indirectly through the QAS but it was not simply the provision of these sources that was important for the learning of the QAS coaches. The invitational quality of the particular activity was a significant factor regarding coach involvement. It should also be remembered that it is not the provision of 'special' opportunities that should be considered of greatest importance for coach learning. It was the everyday coaching experiences that were most highly valued as a source of learning for the QAS coaches. As such, the invitational qualities of this source must be considered too. It is the

foregrounding of this aspect that I feel is the greatest strength of relational interdependence with respect to this project.

Operationalisation and Working Climate

The widely touted motto of 'athlete-centred, coach-driven, service-supported' was somewhat problematic at the QAS. While it was proposed as the optimal operational model for the Academy, it appeared as though this was not a true reflection of what was occurring, or was even possible within the confines of a government-operated organisation. Similarly, there was somewhat of a mismatch between the strong emphasis on international performance, where in reality, a large portion of coaches' work was devoted to developmental activities (regardless of whether they were defined as an international, international medal potential or developmental programs). This certainly had a bearing on the work tasks that QAS coaches prioritised and consequently impacted on their personal agency to varying degrees.

In terms of the organisational structure, the other significant position that was noted by a range of participants was that of the Sport Programs Managers. The Sport Programs Managers were largely responsible for setting the agenda, timetable and scope of learning possible. A major issue related to this was the concern that five of the six coaches expressed regarding the Sport Programs Managers not understanding their particular program. For the QAS coaches, this perceived lack of understanding obviously impacted in various ways and to various extents on their personal agency. Inextricably related to this were the feelings of surveillance reported by a number of the interviewed coaches. This certainly has links with notions of accountability, flexibility and ties in with the physical environment. The evaluative function that Sport Programs

Managers performed, somewhat compromised their ability to engage meaningfully with the coaches regarding their work and learning without arousing suspicion.

The notions of reward and recognition were seen to affect coach feelings of worth and other factors which impacted on the coaches' personal agency which, in turn, directed their learning. As with salaries, it is clear that this was not the motivating factor for coaches performing their work, but there appeared to be a significant impact on the personal agency of the individual over time. There were, however, a number of ways in which the QAS coaches may have been recognised including the coach of the year award, certificates and diplomas, and national appointments, among others. In the interviews, the coaches reported that they would be receptive to recognition through a variety of formal (such as formal certification and recognition of skills developed within the QAS) and informal (such as through internal documents, discussion groups, and casual interactions with administrators) means.

Related to the area of reward and recognition was the issue of coach retention. While some administrators seemed to question the desirability of retaining coaches for substantial periods of time, research in the field of workplace learning has consistently shown that loss of personnel is a significant issue for knowledge industries (Allee, 2000; Fontaine & Millen, 2004). Given that coaches are traditionally guarded with respect to their knowledge and are somewhat isolated in their positions, high turnover of staff is tantamount to continually removing knowledge and expertise from the organisation.

Physical Environment

All participants viewed the new facility at the Queensland Sport and Athletics Centre as being a significant improvement on the previous facility of the QAS. There

were however, issues associated with the venue including the location and aspects of the physical environment. The lack of sport-specific facilities at the QAS was identified as a problem for coaches. For coaches to derive the benefits from interactions with other coaches and QAS employees, they must have a regular and sustained presence at the QAS. To justify this kind of presence, they have to have legitimate reasons for travelling to the facility. The existence of the gym, sport science equipment, coach workstations and in the near future, the recovery and rehabilitation facilities all contributed to this need. Obviously, the addition of any sport-specific facilities on-site would provide a significant incentive to travel to the QAS site. There are obviously financial and logistical considerations that are currently impeding this.

The allocation of workstations for each of the QAS coaches was deemed to be a good idea in theory but the reality of the situation meant that they were not particularly conducive to learning or even particularly productive work. In addition to this, the location of the Sport Programs Managers within the coaches' workstations was thought to be a significant impediment to learning. It is clear that the physical environment impacted significantly on the learning of the coaches. At the very least, research emphasising the situatedness of learning should give specific attention to the physical surrounds (i.e., detail all aspects of the 'context'). Beyond this, it is also reasonable to suggest that the impact of the physical environment could be the primary focus of future projects (i.e., research with a topological orientation).

Personal Agency

Without exception, the QAS coaches expressed a desire to continue to improve as coaches. For the majority of coaches, this passion for advancing their practice was reportedly fuelled by personal factors including a love of the sport they coached, being

seen to be well-informed and wanting to be the best. The connection between personal agency and learning was most obvious at the stage of the interviews when coaches discussed the reasons underpinning their desire to get better at what they did. At times, the coaches even made explicit connections between their passion to improve, and their willingness to engage with certain learning situations they felt were worthwhile.

Regarding engagement with different sources of learning, Aidan said, *"the coach really has to identify what is most meaningful and what will help most"*. Regarding the notion of relational interdependence this view might be modified and extended so as to promote the idea that learning would simply not be possible if not for the agentic actions of the coach. The lack of time or low priority placed on certain learning activities was noted by a range of participants as a reason for reduced engagement. To further encourage and support the learning of the coaches, the QAS needs to demonstrate that learning is a primary purpose of coaching positions both explicitly in workplace documents and personal interactions, and through the allocation of resources and supporting structures. This is critical because as one of the coaches said, *"I do what I am rewarded for"* (Chris).

The coaches (e.g., Carl, Clarke and Craig) were interested in improving their ability to perform their work and as such, viewed learning as a lifelong endeavour. Coaches and administrators often specifically referred to the term 'lifelong learning' or some variation of it in their conversations. It is clear that an integral factor in coach learning is the coaches' interest in engaging in learning activities with respect to their future goals and aspirations. There is no doubt that good learners are self driven and the point that, *"people kind of somehow make it happen because they want to make it happen"* (Aaron) gives a strong indication of the critical nature of individual agency with respect to learning.

Relational Interdependence

The notion of relational interdependence argues that more than physical and social environments, workplaces need to be understood as something negotiated and constructed through the interdependent processes of affordance and engagement (Billett, 2004c). As a result, workplaces such as the QAS can be best understood in terms that include the physical, social and educational provisions of the organisation and the participants' interests, identities and subjectivities (Billett, 2006b). These aspects have been thoroughly discussed throughout this thesis and it is apparent that the affordances (including broad sources of learning, QAS specific sources of learning, operationalisation and working climate, and the QAS physical environment) and the individual's personal agency are interdependent with respect to coach learning. In keeping with the more recent work of Billett (e.g., Billett, 2006b; Billett et al., 2005), it is also evident that the interdependence is not reciprocal or joint. It varies and is more or less obvious depending on the circumstance and depending on the individual. In this way it might be best characterised as being relational.

Final Thoughts

Some researchers have attempted to categorise like theories of learning (e.g., Sfard, 1998; Moon, 1999) and these have helped me to organise my thinking regarding the dynamic and broad field of learning. So too have the specific notions of communities of practice (Lave & Wenger, 1991), and experiential learning (Dewey, 1938) although it is Billett's theory of relational interdependence that has been the most generative in relation to the learning of the QAS coaches. This theory gives strong consideration to the contexts and interactions afforded in work settings while directing attention to the personal agency of the individual. With respect to the research

undertaken with the QAS coaches and administrators, this theory was particularly valuable regarding the analysis of the learning that was and was not possible. The results and subsequent analyses and discussions also served to reinforce the validity of this perspective on workplace learning.

Looking towards the future, there is an opportunity for researchers to continue to consider the environments in which full-time high performance coaches operate as workplaces. In the same way, the tasks that high performance coaches perform, might be best conceptualised as work. When coaches and their environments are viewed in this way, novel possibilities emerge regarding how coach learning might be examined. This research represents the culmination of one such possibility. Regarding the future use of relational interdependence as a theoretical lens, it may be worthwhile to examine other high performance coaching environments including other government-funded institutions (e.g., State and Federal), as well as private sporting organisations (e.g., professional sporting clubs). This would allow comparison between different sporting sites as well as providing other opportunities to critique the concept of relational interdependence. Similarly, a future direction may be to attempt to understand the learning of coaches in developmental or even recreational contexts through the notions of affordances and personal agency.

Regarding the critique of relational interdependence as a theory, future research is warranted regarding the relational nature of its elements. In this research, the individual's personal agency and the QAS affordances were shown to be interdependent in relational ways. However, the underlying mechanisms and reasons for this relational interaction remained somewhat less obvious. It would be interesting to examine this variation over the course of a career, in the case of the individual, and over time, with

respect to the organisation. To achieve this, future research that is longitudinal in nature would be necessary.

The results from each of the aforementioned future research directions would add to the burgeoning body of research investigating how coaches learn to perform their difficult and demanding work. Future research in these areas would also help direct the organisations that rely on the services of coaches regarding how to facilitate the learning of this important group.

REFERENCES

Abernethy, B., Côté, J., & Baker, J. (2002). *Expert decision-making in team sports*. Brisbane, Australia: University of Qld, Australian Sports Commission.

Abraham, A., Collins, D., & Martindale, R. (2006). The coaching schematic: Validation through expert coach consensus. *Journal of Sports Sciences, 24*(6), 549-564.

Ahmed, P. K., Lim, K. K., & Loh, A. Y. E. (2002). *Learning through knowledge management*. Melbourne: Butterworth-Heinemann.

Akkerman, S., Van den Bossche, P., Admiraal, W., Gijselaers, W., Segers, M., Simons, R., et al. (2007). Reconsidering group cognition: From conceptual confusion to a boundary area between cognitive and socio-cultural perspectives. *Educational Research Review, 2*(1), 39-63.

Allee, V. (2000). Knowledge networks and communities of practice. *OD Practitioner, 32*(4), 4-13.

American Sport Education Program. (1999). What makes a good coach? *Sports Coach, 22*(2), 28-29.

Argyris, C. (1991). Teaching smart people how to learn. *Harvard Business Review, 69*, 99-109.

Armour, K. M., Jones, R. L., & Kerry, D. (1998). Sport sociology 2000. *Sociology of Sport Online, 1*(1). Retrieved May 2, 2004, from http://physed.otago.ac.nz/sosol/v1i1/v1i1a7.htm.

Armour, K. M., & Jones, R. L. (2000). The practical heart within: The value of the sociology in sport. In K. M. Armour & R. L. Jones (Eds.), *Sociology of Sport: Theory and practice* (pp. 1-10). Essex: Longman.

Atkinson, T., & Claxton, G. (2000). *The intuitive practitioner: On the value of not always knowing what one is doing*. Buckingham: Open University Press.

Bales, J. (2006). Introduction: Coach education. *The Sport Psychologist, 20*, 126-127.

Barnett, R. (1999). Learning to work and working to learn. In D. Boud & J. Garrick (Eds.), *Understanding learning at work* (pp. 29-44). London: Routledge.

Baumann, A., Shaw, P., & Smith, P. (2004). Operational review 2005-2009: Team briefing notes. Brisbane, Australia: Queensland Academy of Sport.

Bennett, W. (2004, June, 5). Coaches first to be savaged when a team starts to bleed. *The Courier Mail*, pp. 46-47.

Billett, S. (1999). Guided learning at work. In D. Boud & J. Garrick (Eds.), *Understanding learning at work* (pp. 151-164). London: Routledge.

Billett, S. (2000). Guided learning at work. *Journal of Workplace Learning, 12*(7), 272-285.

Billett, S. (2001a). Co-Participation: Affordance and engagement at work. *New Directions for Adult and Continuing Education, 92*, 63-72.

Billett, S. (2001b). *Learning in the workplace: Strategies for effective practice*. New South Wales: Allen & Unwin.

Billett, S. (2001c). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning, 5*, 209 - 214.

Billett, S. (2001d). Learning throughout working life: Interdependencies at work. *Studies in Continuing Education, 23*(1), 19-35.

Billett, S. (2004a, October). Being competent: The relational interdependence between individual and social agency in working life. *Paper presented at the European Association of Research on Learning and Instruction – Professional Development SIG Conference*. Regensburg, Germany.

Billett, S. (2004b). Co-participation at work: Learning through work and throughout working lives. *Studies in the Education of Adults, 36*(2), 190-205.

Billett, S. (2004c). Workplace participatory practices: Conceptualising workplaces as learning environments. *Journal of Workplace Learning, 16*(6), 312-324.

Billett, S. (2006a, August). Positioning the individual within the social geneses of knowledge and learning: A relational perspective. *Seminar presented at The Centre for Applied Language, Literacy and Communication Studies*. Griffith University, Australia.

Billett, S. (2006b). Relational interdependence between social and individual agency in work and working life. *Mind, Culture and Activity, 13*(1), 53-69.

Billett, S., Ehrich, L., & Hernon-Tinning, B. (2003). Small business pedagogic practices. *Journal of Vocational Education and Training, 55*(2), 149-167.

Billett, S., Smith, R., & Barker, M. (2005). Understanding work, learning and the remaking of cultural practices. *Studies in Continuing Education, 27*(3), 219-237.

Bloom, G. A., Durand-Bush, N., Schinke, R. J., & Salmela, J. H. (1998). The importance of mentoring in the development of coaches and athletes. *International Journal of Sport Psychology, 29*, 267-281.

Booth, D., & Tatz, C. (2000). *One-eyed: A view of Australian Sport*. New South Wales: Allen and Unwin.

Boud, D., Freeland, J., Hawke, G., & McDonald, R. (1998). More strategic, more critical, more evaluative: Perspectives on research into workplace learning and assessment. In D. Boud (Ed.), *Current issues and new agendas in workplace learning* (pp. 136-150). South Australia: NCVER Ltd.

Boud, D., & Garrick, J. (1999a). *Understanding learning at work*. London: Routledge.

Boud, D., & Garrick, J. (1999b). Understandings of workplace learning. In D. Boud & J. Garrick (Eds.), *Understanding learning at work* (pp. 1-12). London: Routledge.

Bowes, I., & Jones, R. L. (2006). Working at the edge of chaos: Understanding coaching as a complex, interpersonal system. *The Sport Psychologist, 20*, 235-245.

Brown, J. (2001). *Sports talent: How to identify and develop outstanding athletes*. South Australia: Human Kinetics.

Burgoyne, J., Pedler, M., & Boydell, T. (1994). *Towards the learning company: Concepts and practices*. Sydney: McGraw-Hill Book Company.

Cartwright, D. (2004, September 3). Bigger battle off field: Apart from the football, there's a contest between the master and apprentice. *The Courier Mail: Main game* [Supplement], pp. 2-3.

Casey, C. (1999). The changing contexts of work. In D. Boud & J. Garrick (Eds.), *Understanding learning at work* (pp. 15-28). London: Routledge.

Cassidy, T., Jones, R. L., & Potrac, P. (2004). *Understanding sports coaching: The social, cultural and pedagogical foundations of coaching practice*. London: Routledge.

Cavalheiro, C. A., Soter da Silveira Jr, P. C., & Palermo, P. C. G. (2005). Multidisciplinary training: The orbital model. *New Studies in Athletics, 20*(4), 7-18.

Coakes, S. J., & Steed, L. G. (2003). *SPSS analysis without anguish: Version 11.0 for Windows*. Queensland: John Wiley & Sons Australia.

Collin, K. (2005). *Experience and shared practice - design engineers' learning at work.* Unpublished doctoral dissertation, Griffith University, Brisbane, Queensland, Australia.

Côté, J. (1998). Coaching research and intervention: An introduction to the special issue. *Avante, 4*(3), 1-15.

Côté, J. (2006). The development of coaching knowledge. *International Journal of Sports Science and Coaching, 1*(3), 217-222.

Côté, J., Ericsson, K. A., & Law, M. P. (2005). Tracing the development of athletes using retrospective interview methods: A proposed interview and validation procedure for reported information. *Journal of Applied Sport Psychology, 17*, 1-19.

Côté, J., & Salmela, J. H. (1994). A decision-making heuristic for the analysis of unstructured qualitative data. *Perceptual and Motor Skills, 78*, 465-466.

Côté, J., & Salmela, J. H. (1996). The organisational tasks of high-performance gymnastic coaches. *The Sport Psychologist, 10*, 247-260.

Côté, J., Salmela, J. H., Baria, A., & Russell, S. J. (1993). Organising and interpreting unstructured qualitative data. *The Sport Psychologist, 7*, 127-137.

Cross, N., & Lyle, J. (1999). *The coaching process: Principles and practice for sport*. Edinburgh: Butterworth-Heinemann.

Culver, D. M., Gilbert, W., & Trudel, P. (2003). A decade of qualitative research in sport psychology journals: 1990-1999. *The Sport Psychologist, 17*, 1-15.

Culver, D. M., & Trudel, P. (2006). Cultivating coaches' communities of practice: Developing the potential for learning through interactions. In R. Jones (Ed.), *The sports coach as educator: Re-conceptualising sports coaching* (pp. 97-112). London: Routledge.

Cushion, C. J. (2001, September 3). Coaching research and coach education: Do the sum of the parts equal the whole? (Part 1). *New Dimensions in P.E. & Sport*. Retrieved May 2, 2004, from www.sports-media.org/Sportapolisnewsletter4.htm#questions

Cushion, C. J., Armour, K. M., & Jones, R. L. (2003). Coach education and continuing professional development: Experience and learning to coach. *QUEST, 55*, 215-230.

Cushion, C. J., Armour, K. M., & Jones, R. L. (2006). Locating the coaching process in practice: Models 'for' and 'of' coaching. *Physical Education and Sport Pedagogy, 11*(1), 83-99.

d'Arrippe-Longueville, F., Fournier, J. F., & Dubois, A. (1998). The perceived effectiveness of interactions between expert French judo coaches and elite female athletes. *The Sport Psychologist, 12*, 317-332.

Dall'Alba, G., & Sandberg, J. (2006). Unveiling professional development: A critical review of stage models. *Review of Educational Research, 76*, 383-412.

Dawson, P., Dobson, S., & Gerrard, B. (2000). Estimating coaching efficiency in professional team sports: Evidence from English association football. *Scottish Journal of Political Economy, 47*(4), 399-421.

De Marco, G. M. J., & McCullick, B. A. (1997). Developing expertise in coaching: Learning from the legends. *JOPERD, 68*(3), 37-41.

de Swardt, A. (2006). The functions of manager, coach, agent and athlete in elite sport management. *The Coach, 32*(74-79).

Department of Tourism Sport and Racing Queensland. (1991). *Annual report 1990/91*. Brisbane: Queensland Government.

Dewey, J. (1938). *Experience and education*. New York: Collier.

Dickson, S. (2001a). *Advancement in sport coaching and officiating accreditation*. New South Wales.

Dickson, S. (2001b). *A preliminary investigation into the effectiveness of the national coach accreditation scheme*. New South Wales: Australian Sports Commission.

Dodds, P. (1994). Cognitive and behavioral components of expertise in teaching physical education. *QUEST, 46*, 153-163.

Duffy, P. (2000, September). *Report on study visit to Australia: 18-30 September 1999.* National Coaching and Training Centre. Retrieved June 14, 2005, from http://www.nctc.ul.ie/press/pubs/australia%20report.doc

Duffy, P., Larkin, F., & O'Leary, D. (2005, August 14-19). Tracing the development process and needs of Irish coaches. *Paper presented at the ISSP 11th World Congress of Sport Psychology,* Sydney, Australia.

Elkjaer, B. (2005, December 12-14). Stupid organisation - How will you ever learn? *Paper presented at the 4th International Conference on Researching Work and Learning,* University of Technology, Sydney.

Eraut, M. (2004). Informal learning in the workplace. *Studies in Continuing Education, 26*(2), 247-273.

Erickson, K., Côté, J., & Fraser-Thomas, J. (2007). Sport experiences, milestones, and educational activities associated with high-performance coaches' development. *The Sport Psychologist, 21*, 302-316.

Ericsson, K. A., & Charness, N. (1994). Expert performance: Its structure and acquisition. *American Psychologist, 49*(8), 725-747.

Ericsson, K. A., & Lehmann, A. C. (1996). Expert and exceptional performance: Evidence of maximal adaptation to task constraints. *Annual Review of Psychology, 47*, 273-305.

Fairs, J. R. (1987). The coaching process: The essence of coaching. *Sports Coach, 11*(1), 17-19.

Fenwick, T. (2001). Tides of change: New themes and questions in workplace learning. *New Directions for Adult and Continuing Education, 92*, 3-17.

Fenwick, T., & Rubenson, K. (2005, December 12-14). Taking stock: A review of research on learning in work 1999-2004. *Paper presented at the 4th International Conference on Researching Work and Learning,* University of Technology, Sydney.

Fontaine, M. A., & Millen, D. R. (2004). Understanding the benefits and impact of communities of practice. In P. Hildreth & C. Kimble (Eds.), *Knowledge networks: Innovation through communities of practice* (pp. 1-14). Melbourne: Idea Group Publishing.

Franks, I., Sinclair, G. D., Thomson, W., & Goodman, D. (1986). Analysis of the coaching process. *Science Periodical on Research and Technology in Sport, 1*, 1-12.

Frost, B., & Schoen, S. (2004). Viable communities within organisational contexts: Creating and sustaining viability in communities of practice at Siemens AG. In P. Hildreth & C. Kimble (Eds.), *Knowledge networks: Innovation through communities of practice* (pp. 133-141). Melbourne: Idea Group Publishing.

Galipeau, J., & Trudel, P. (2005). The role of the athletic, academic, and social development of student-athletes in two varsity sport teams. *Applied Research in Coaching and Athletics Annual, 20*, 27-49.

Galipeau, J., & Trudel, P. (2006). Athlete learning in a community of practice: Is there a role for the coach? In R. Jones (Ed.), *The sports coach as educator: Reconceptualising sports coaching* (pp. 77-94). London: Routledge.

Gilbert, W. (2002). *An annotated bibliography and analysis of coaching science: 1970 - 2001*. Unpublished manuscript, California State University at Fresno

Gilbert, W., Côté, J., & Mallett, C. (2006). The talented coach: Developmental paths and activities of successful sport coaches. *International Journal of Sport Science and Coaching, 1*(1), 69-76.

Gilbert, W., Niino, A., Wahl, M., & Conway, M. (2004). Developmental Activity Profiles of Successful Coaches. *Paper presented at the meeting of the Association of the Advancement of Applied Sport Psychology,* Philadelphia.

Gilbert, W., Niino, A., Wahl, M., Conway, M., Biletnikoff, F., & Côté, J. (2004, January). Role of experience in coach development. *P.E. links 4 U: Coaching and Sports,* 6(1). Retrieved October 20, 2005, from http://www.pelinks4u.org/archives/coaching/ 010104.htm

Gilbert, W., & Trudel, P. (1999). Framing the construction of coaching knowledge in experiential learning theory. *Sociology of Sport Online,* 2(1). Retrieved May 2, 2004, from http://physed.otago.ac.nz/sosol/v2i1/v2i1s2.htm

Gilbert, W., & Trudel, P. (2004a). Analysis of coaching science research published from 1970-2001. *Research Quarterly for Exercise and Sport, 75*(4), 388-402.

Gilbert, W., & Trudel, P. (2004b). Role of the coach: How model youth team sport coaches frame their roles. *The Sport Psychologist, 18*, 21-43.

Gould, D., Giannini, J., Krane, V., & Hodge, K. (1990). Educational needs of elite U.S. National team, Pan American, and Olympic coaches. *Journal of Teaching in Physical Education, 9*, 322-344.

Gratton, C., & Jones, I. (2004). *Research methods for sport studies*. London: Routledge.

Haag, H. (1984). Relationships of curriculum and instruction theory as major aspects of sport pedagogy. In M. Piéron & G. Graham (Eds.), *The 1984 Olympic Scientific Congress Proceedings: Vol. 6 Sport pedagogy* (pp. 151-162). Los Angeles, USA.

Hager, P. (1999). Finding a good theory of workplace learning. In D. Boud & J. Garrick (Eds.), *Understanding learning at work* (pp. 65-82). London: Routledge.

Hager, P. (2004). Conceptions of learning and understanding learning at work. *Studies in Continuing Education, 26*(1), 3-17.

Hager, P. (2005, December 12-14). The importance of contextuality for learning. *Paper presented at the 4th International Conference on Researching Work and Learning,* University of Technology, Sydney.

Hardin, B. (1999). Expertise in teaching and coaching: A qualitative study of physical educators and athletic coaches. *Sociology of Sport Online, 2*(1). Retrieved May 2, 2004, from http://physed.otago.ac.nz/sosol/v2i1/v2i1a2.htm.

Hildreth, P., & Kimble, C. (2004). *Knowledge networks: Innovation through communities of practice*. Melbourne: Idea Group Publishing.

Hoch, D. (2004). Coaching education and certification. *Coach and Athletic Director, 74*(2), 14.

Hurley, A. (2000). Life after coaching part 1: What skills do coaches possess to take them into the next life? *Sports Coach, 23*(3), 29-30.

Irwin, G., Hanton, S., & Kerwin, D. G. (2004). Reflective practice and the origins of elite coaching knowledge. *Reflective Practice, 5*(3), 425-442.

Johnson, C. M. (2001). A survey of current research on online communities of practice. *The Internet and Higher Education, 4,* 45-60.

Jones, R. L. (2005, July). Resource guide in: Sports coaching. *The Hospitality, Leisure, Sport & Tourism Network*. Retrieved June 20, 2006, from http://www.heacademy.ac.uk/assets/hlst/documents/resource_guides/sports_coaching.pdf

Jones, R. L., Armour, K. M., & Potrac, P. (2002). Understanding the coaching process: A framework for social analysis. *QUEST, 54*, 34-48.

Jones, R. L., Armour, K. M., & Potrac, P. (2003). Constructing expert knowledge: A case study of a top-level professional soccer coach. *Sport, Education and Society, 8*(2), 213-229.

Jones, R. L., Armour, K. M., & Potrac, P. (2004). *Sports coaching cultures: From practice to theory*. London: Routledge.

Kidman, L. (2001). *Developing decision makers: An empowerment approach to coaching*. Christchurch: Innovative Print Communications Ltd.

Kilty, K. (2006). Women in coaching. *The Sport Psychologist, 20*, 222-234.

Kirk, D., & Macdonald, D. (1998). Situated learning in physical education. *Journal of Teaching in Physical Education, 17*, 376-387.

Kolb, D. A. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

Lave, J. (1988). *Cognition in practice*. Cambridge, UK: Cambridge University Press.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Leonard, R. (2005). *The administrative side of coaching: A handbook for applying business concepts to coaching athletics*. United States of America: West Virginia University.

Light, R. (2006). Situated learning in an Australian surf club. *Sport, Education and Society, 11*(2), 155-172.

Lloyd, M. (2006, July). *QAS coach education project - sport psychology final report*. Brisbane: Queensland Academy of Sport.

Lock Lee, L., & Neff, M. (2004). How information technologies can help build and sustain an organisation's CoP: Spanning the socio-technical divide? In P. Hildreth & C. Kimble (Eds.), *Knowledge networks: Innovation through communities of practice* (pp. 165-183). Melbourne: Ideas Group Publishing.

Locke, L. F. (1989). Qualitative research as a form of scientific inquiry in sport and physical education. *Research Quarterly for Exercise and Sport, 60*(1), 1-20.

Lyle, J. (1990). Systematic coaching behaviour: An investigation into the coaching process and the implications of the findings for coach education. In T. Williams, L. Almond, & A. Sparkes (Eds.), *Sport and Physical Activity: Moving Towards Excellence AIESEP World Convention Proceedings* (pp. 463-469), Loughborough University, UK.

Lyle, J. (2002). *Sports coaching concepts: A framework for coaches' behaviour*. London: Routledge.

Lynch, M., & Mallett, C. (2006). Becoming a successful high performance track and field coach. *Modern Athlete and Coach, 22*(2), 15-20.

Macdonald, D. (2004, July 7-10). Developing a professional identity through PBL: A case of HPE teacher education. *Paper presented at the Global Perspectives in the Integration of Physical Activity, Sports, Dance, and Exercise Science in Physical Education: From Theory to Practice*, Hong Kong Institute of Education, Hong Kong.

Macdonald, D., Kirk, D., Metzler, M., Nilges, L. M., Schempp, P., & Wright, J. (2002). It's all very well, in theory: Theoretical perspectives and their applications in contemporary pedagogical research. *QUEST, 54*, 133-156.

MacLean, J. C., & Chelladurai, P. (1995). Dimensions of coaching performance: Development of a scale. *Journal of Sport Management, 9*, 194-207.

Mallett, C., Rossi, T., & Tinning, R. (2007, June). *Coaching knowledge, learning and mentoring in the AFL*. Unpublished report to the Australian Football League, University of Queensland-Brisbane.

Marshall, H. (2002). What do we do when we code data? *Qualitative Research Journal, 2*(1), 56-70.

Marsick, V. J. (1988). Learning in the workplace: The case for reflectivity and critical reflectivity. *Adult Education Quarterly, 38*(4), 187-198.

Marsick, V. J., & Watkins, K. E. (1990). *Informal and incidental learning in the workplace*. London: Routledge.

Matthews, J. H., & Candy, P. C. (1999). New dimensions in the dynamics of learning and knowledge. In D. Boud & J. Garrick (Eds.), *Understanding learning at work* (pp. 47-64). London: Routledge.

McCall, G. J., & Simmons, J. L. (1969). *Issues in participant observation: A text and reader*. Sydney: Addison-Wesley Publishing Company.

McDermott, R. (2000, February 28). Knowing in community: 10 critical success factors in building communities of practice. *Community Intelligence Labs.* Retrieved June 27, 2006, from www.co-i-l.com/coil/knowledge-garden/cop/knowing.shtml

McGregor, J. (2003). Making spaces: Teacher workplace topologies. *Pedagogy, Culture and Society, 11*(3), 353-375.

Mercier, R., & Werthner, P. (2002). Women and coaching: Changing the androcentric world of sport. *Canadian Women Studies, 21*(3), 115-118.

Moon, J. A. (1999). *Reflection in learning and professional development: Theory and practice*. London: Kogan Page.

National Board of Employment Education and Training. (1994, January). *Workplace learning in the professional development of teachers: Commissioned report No. 24*. Canberra: Australian Government Publishing Services.

Nelson, L. J., Cushion, C. J., & Potrac, P. (2006). Formal, nonformal and informal coach learning: A holistic conceptualisation. *International Journal of Sport Science and Coaching, 1*(3), 247-253.

Neuman, W. L. (2000). *Social research methods: Qualitative and quantitative approaches* (4th ed.). Sydney: Allyn and Bacon.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). London: Sage Publications.

Phillips, M. (2000). *From sidelines to centre field: A history of sports coaching in Australia*. Sydney: University of New South Wales Press Ltd.

Potrac, P., Brewer, C., Jones, R. L., Armour, K. M., & Hoff, J. (2000). Towards an holistic understanding of the coaching process. *QUEST, 52*, 186-199.

Potrac, P., & Jones, R. L. (1999). The invisible ingredient in coaching knowledge: A case for recognising and researching the social component. *Sociology of Sport Online, 2*(1). Retrieved May 2, 2005, from http://physed.otago.ac.nz/sosol/v2i1/v2i1a5.htm.

Queensland Academy of Sport. (2006). *Smart sport: Centre of excellence for applied sport science research* [Brochure]. Brisbane, Australia: Queensland Government.

Queensland Studies Authority. (2004). *Physical Education Senior Syllabus*. Brisbane: Queensland Studies Authority.

Reid, C. (2007). The business of coaching. *Sports Coach, 29*(2), 6-7.

Renshaw, P. (2002). Learning and community. *The Australian Educational Researcher, 29*(2), 1-13.

Rynne, S. B., Mallett, C., & Tinning, R. (2006). High performance sport coaching: Institutes of sport as sites for learning. *International Journal of Sport Science and Coaching, 1*(3), 223-233.

Sage, G. H. (1989). Becoming a high school coach: From playing sports to coaching. *Research Quarterly for Exercise and Sport, 60*(1), 81-92.

Salmela, J. H., & Moraes, L. C. (2003). Development of expertise: What do experienced athletes remember? In J. L. Starkes & K. A. Ericsson (Eds.), *Expert performance in sports: Advances in research on sport expertise* (pp. 275-294). South Australia: Human Kinetics.

Saury, J., & Durand, M. (1998). Practical knowledge in expert coaches: On-site study of coaching in sailing. *Research Quarterly for Exercise and Sport, 69*(3), 254-266.

Schaefer, U., & Gil'ad, A. (2000). Coaching science. In International Council of Sport Science and Physical Education (Ed.), *ICSSPE Directory of Sport Science* (2nd ed., pp. 43-58). Berlin: Editor.

Schempp, P. (1998). The dynamics of human diversity in sport pedagogy scholarship. *Sociology of Sport Online,* 1(1). Retrieved May 2, 2005, from http://physed.otago .ac.nz/sosol/v1i1/v1i1a8.htm

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books Inc.

Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational Researcher, 27*(2), 4-13.

Sherman, C., Crassini, B., Maschette, W., & Sands, R. (1997). Instructional sport psychology: A re-conceptualisation of sports coaching as sport instruction. *International Journal of Sport Psychology, 28*, 103-125.

Sherman, N. W., & Hume, D. (2002). Why female athletes quit: Implications for coach education. *The Journal of Physical Education, Recreation and Dance, 73*(2), 8.

Sparkes, A. C. (1992). The paradigms debate: An extended review and a celebration of difference. In A. C. Sparkes (Ed.), *Research in physical education and sport: Exploring alternative visions*. London: The Falmer Press.

Sparkes, A. C., & Templin, T. J. (1992). Life histories and physical education teachers: Exploring the meanings of marginality. In A. C. Sparkes (Ed.), *Research in physical education and sport: Exploring alternative visions*. London: The Falmer Press.

Starkes, J. L., & Ericsson, K. A. (2003). *Expert performance in sports: Advances in research on sport expertise*. Champaign: Human Kinetics.

Stelter, R., Sparkes, A., & Hunger, I. (2003). Qualitative research in sport sciences - an introduction. *Forum: Qualitative Social Research, 4*(1), Article 2.

Telles-Langdon, D. M., & Spooner, T. K. (2006). Coaches as professionals: The professionalization of coaching in Canada. *Coaches Plan, 13*(1), 8-13 & 42-49.

Tennant, M. (1999). Is learning transferable? In D. Boud & J. Garrick (Eds.), *Understanding learning at work* (pp. 165-179). London: Routledge.

Tinning, R. (2003). Ideas, theories, theorists and their part in doing social theory inspired research: Confessions of an eclectic. *Paper presented at the Wollongong Research Conference.* Wollongong, Australia.

Trudel, P., & Gilbert, W. (2004). Communities of practice as an approach to foster ice hockey coach development. *Safety in Ice Hockey, 4*, 165-179.

Trudel, P., & Gilbert, W. (2006). Coaching and coach education. In D. Kirk, D. Macdonald & M. O'Sullivan (Eds.), *The handbook of physical education* (pp. 516-539). London: Sage.

Valsiner, J. (1994). Bi-directional cultural transmission and constructive sociogenesis. In W. d. Graaf & R. Maier (Eds.), *Sociogenesis re-examined*. New York: Springer.

Vestal, W. C., & Lopez, K. (2004). Best practices: Developing communities that provide business value. In P. Hildreth & C. Kimble (Eds.), *Knowledge networks: Innovation through communities of practice* (pp. 142-149). Melbourne: Idea Group Publishing.

Watkins, K. E. (1991). *Facilitating learning in the workplace*. Victoria: Deakin University Press.

Watkins, K. E., & Marsick, V. J. (1992). Building the learning organisation: A new role for human resource developers. *Studies in Continuing Education, 14*(2), 115-129.

Watkins, K. E., & Marsick, V. J. (1993). *Sculpting the learning organisation: Lessons in the art and science of systemic change*. San Francisco: Jossey-Bass Publishers.

Way, R., & O'Leary, D. (2006). Long-term coach development concept. *Coaches Plan, 12*(3), 24-31.

Weiss, M., & Stevens, C. (1993). Motivation and attrition of female coaches: An application of social exchange theory. *The Sport Psychologist, 7*, 244-261.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

Wenger, E. (2004). Knowledge management as a doughnut: Shaping your knowledge strategy through communities of practice. *Ivey Business Journal, 68*(3), 1-8.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston: Harvard Business School Press.

Wenger, E., & Snyder, W. M. (2000). Communities of practice: The organisational frontier. *Harvard Business Review, 78*(1), 139.

Werthner, P., & Trudel, P. (2006). A new theoretical perspective for understanding how coaches learn to coach. *The Sport Psychologist, 20*, 198-212.

Whitson, D. J. (1978). Research methodology in sport science [Monograph]. *Canadian Association for Health, Physical Education and Recreation: Sociology of Sport Monograph Series.* Series A.

Williams, J. (2007). What are the research needs of elite coaches? *Sports Coach, 29*(2), 18-19.

Wolcott, H. F. (2002). Writing up qualitative research...better. *Qualitative Health Research, 12*(1), 91-103.

Woodman, L. (1993). Coaching: A science, an art, an emerging profession. *Sport Science Review, 2*(2), 1-13.

Woodman, L. (1994). Coaching: A science, an art and a profession. *Sports Coach, 17*(1), 5-12.

GLOSSARY

Affordances (workplace): refers to the opportunities and support provided for employees within a workplace environment. Affordances include the direct guidance workers access (e.g., other workers, engaging in mandated work activities) and the indirect contributions provided by the physical and social environment of the workplace (Billett, 2001c).

Agency (personal): determines how workers participate and engage in activities and respond to guidance they are being afforded in their workplace. Points of note regarding personal agency with respect to learning include: individuals' interests and priorities direct participation in work and other workplace opportunities; rather than being situtationally determined, the invitational qualities of workplace affordances are determined by the individual; participation and experiences through a working life may result in certain ways of knowing (Billett, 2004b).

Coaching (performance): is characterised by an intensive commitment to preparation programme, more obvious attempts to influence/control performance variables, individual performance components are identified separately in the programme, objectives short and long term with specific competition goals, intervention of the coach is an integrated and progressive process, performers operate within recognised competition structures, more emphasis on decision making and data management (recording, monitoring, planning and analysis), extensive interpersonal contact (Lyle, 2002, pp. 54-55).

Communities of practice: are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this

area by interacting on an ongoing basis (Wenger, McDermott & Snyder, 2002, p. 4)

Constructivist approach: emphasises that learning is an active process in which the individual seeks out information in relation to the task at hand and the environmental conditions prevailing at any given time, and tests out her or his own capabilities within the context formed by the task and the environment (Kirk & Macdonald, 1998)

Direct interceptive activities: opponents occupy the same defined area of play simultaneously and usually in equal numbers. Opponents generally compete for the space on the field of play. Examples include (but are not limited to) basketball, fencing, field hockey and water polo (Queensland Studies Authority, 2004).

Dispositions: comprise attitudes, values, affects, interests and identity associated with work (Billet, 2006a, 2006b).

Indirect interceptive activities: players intercept the implements of play or the direction of movement of players. Players occupy space critical to their opponent and body contact is generally not a feature of these sports. In some sports in this category, the players are separated by a net. Examples include (but are not limited to) badminton, cricket, sailing, softball and volleyball (Queensland Studies Authority, 2004).

Informal knowledge network: are networks where relationships are always shifting and changing as people have need to connect. The primary purpose is to collect and pass along information. They are loose and informal because there is no joint enterprise that holds them together (Allee, 2000, p. 8).

Learning: can be understood as permanent or semi-permanent changes in how individuals think and act. Learning is not reserved for particular settings or interludes, although some experiences may provide richer learning outcomes than others (Billett, 2004c, pp. 314-315).

Learning organisation: is one that is characterised by continuous learning for continuous improvement. In a learning organisation, learning is a continuous, strategically used process-integrated with, and running parallel to, work. Learning enhances organisational capacity for innovation and growth (Watkins & Marsick, 1993, p. 8).

Networks of practice: are comprised of people who are geographically separate but who still share work-related practices. Relationships between members are much looser than the ones that characterise communities of practice. This form of network readily adapts to Internet and other communication technologies (Hildreth & Kimble, 2004; Trudel & Gilbert, 2006).

Premediate experiences: is the social and cultural suggestion encountered and engaged with prier to the present. Premediate experiences shape individuals' identities, subjectivities and agency. These, in turn, influence how individuals engage with and construe subsequent social experiences (Billett, 2004a, p.8).

Postmediate experience: are future experiences that are shaped by the manner in which premediate and immediate experiences coalesce (Billet, 2006b)

Relational Interdependence: is a theory of learning which proposes that the learning required to maintain competence throughout working life might best be understood in terms of the relational interdependences between individual agency and social suggestion. Learning at work comprises the dual process of individual change and the remaking of cultural practices enacted through an

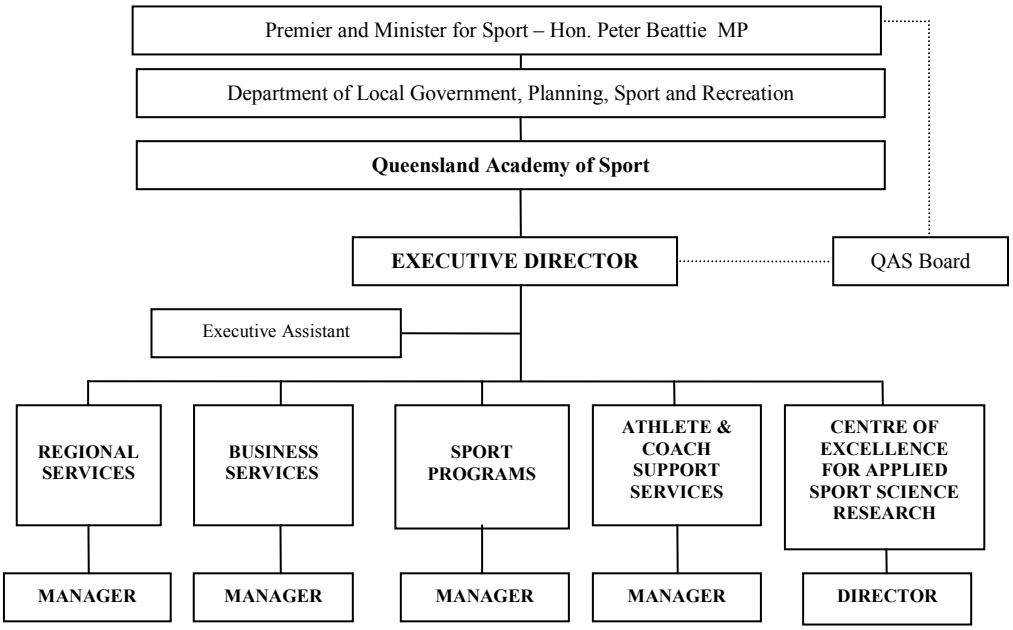
interdependence between individual agency and social suggestion which is relational (rather than being reciprocal or joint). This brings to the foreground both the pre-mediate social experience that shapes individuals' identities, subjectivities and agency, and the history of relations with the social world that constitutes their ontogeneses (Billett, 2004a).

Situated Learning: acknowledges that learning takes place in particular sets of circumstance, time and space. It also refers to the fact that learning is social as it may involve interaction between an individual learner and others (Kirk & Macdonald, 1998).

APPENDICES

Appendix A QAS Organisational Structure

as at 30-11-05



Appendix B Semi-structured Interview Schedule – Coaches

Part A – Work roles

1. What are the major roles in your job?

2. Which roles are most important for your performance as a coach? (perhaps rank from 1-3) Why is that?

3. What roles are less important for your performance as a coach? (perhaps rank from 1-3) Why is that?

4. What is the most difficult role to perform? Why is that? Is there another role that is difficult?

5. What is the easiest role to perform? Why is that?

6. What aspects of your coaching are you most uncertain about? Why is that?

7. In what ways has your role/s within the QAS changed since commencing your job?

8. In what ways is the role of QAS coach likely to change in the future?

9. If you have worked at different clubs/organisations as an AC or HC, in what ways were the roles similar or different from your current position?

Part B – Learning coaching

10. When first appointed as a QAS coach, what were your initial concerns about performing the role?

11. Of the roles you previously identified (Q2-6), what was the most difficult role to learn and why?

12. How did you learn the most difficult role that you identified above? (forms / sources)

13. How did you learn the roles you identified as being easier to perform (Q6)? (forms / sources)

14. Of the sources of learning you identified in the previous 2 questions, which sources do you prefer?

15. What is it about that source of learning that you like?

16. In what ways have these sources of learning changed as you developed your skills as a coach? (prompt – think about your time as a QAS coach)

17. What do you need more of to assist you to learn to be a more effective coach?

Part C – Levels of co-Participation

Affordances

18. In what ways is the organisation a source for your learning? (2 identified already in Q12/13)

19. Are there other sources of learning support that exist for you within the QAS?

20. In what ways is your development as a QAS coach improved through these activities? Give an example

21. Aside from the provision of these sources of learning, is there anything else that the QAS does to encourage your engagement?

22. How could the QAS facilitate your learning / development as a coach?

    a. What is that knowledge?

    b. Why is it difficult to access?

    c. Why is it important? – give an example

23. What are your feelings about the physical environment at the QAS facility at QSAC? – Prompts - Is it conducive to learning or social interaction? How does it hinder learning or social interaction?

Engagement

24. What drives your efforts to learn in the QAS?

25. Are there any sources of learning at the QAS that you have initiated?

26. Are there any sources of learning at the QAS that you do not currently access (or access as regularly as others)?

27. What stops you participating in those activities?

28. Are there differences in what you think are important learning activities to develop your coaching and what the QAS thinks is important? If so, what are they (example)

29. How does this influence your level of participation in activities aimed at developing your coaching? (To what extent is personal agency driven by your perceived needs / those identified by the QAS?)

30. How could your engagement in learning activities be improved?

Appendix C Semi-structured Interview Schedule – Administrators

Part A – Work roles

1. Describe what you believe are the major roles of the head coach at the QAS?

2. Which roles are most important for the coaches to perform?
   Why is that?

3. What roles are less important for the coaches to perform?
   Why is that?

4. What is the most difficult role to perform?
   Why is that?
   Is there another role that is difficult?

5. What is the easiest role to perform?
   Why is that?

6. In what ways is the role of QAS coach likely to change in the future?

Part B – Learning coaching

7. When someone is first appointed as a QAS coach, what do you think are their initial concerns about performing their role?

8. How do you think the coaches learn the most difficult roles that you identified above (Q4.)?

9. How do you think they learn the roles you identified as being easier to perform (Q5)?

10. Of the sources of learning that you identified in the previous 2 questions, which do you think coaches prefer?

11. In what ways (if any) do the sources of learning change for coaches as they develop their skills as a coach?

Part C – Levels of Co-Participation
Affordances

12. In what ways can coaches currently learn within the QAS? 2 already identified in Part B (Prompt – other coaches, resource centre, sport scientists etc)

13. Are there other sources of learning support that exist for coaches within the QAS? (perhaps from external providers but facilitated/funded/accessed by the QAS)

14. Aside from the provision of these sources, is there anything else that the QAS does to encourage coach engagement? (prompts – what incentive is there aside from course content?)

15. Are there other sources of learning that you would like the coaches to have access to but the QAS does not currently provide?

    a. What is that knowledge?

    b. Why is it difficult to access/why isn't it provided?

    c. Why is it important? – give an example

16. What drives your efforts to facilitate learning in the QAS?

17. What reservations, if any, do you have in providing learning opportunities for the coaches?

18. Are there differences in what you think are important learning activities to develop coaching expertise and what the coaches think is important? If so, what are they (example) (how do they know what the coaches think is important?)

19. How does this influence your provision of activities aimed at developing their coaching? (To what extent are affordances driven by perceived needs vs those identified by the coach?)

20. What are your feelings about the physical environment at the QAS facility at QSAC? – Prompts – Is it conducive to learning or social interaction? How does it hinder learning or social interaction?

Engagement

21. You listed (response to Q12/13) as sources of learning at the QAS, in what ways could coaches' development be improved through participation in your organisation's activities? Give an example

22. Are there sources of learning currently provided at the QAS that you wish coaches would or could access more? Give an example

23. What stops them participating in those activities?

24. What do you think motivates coaches within the QAS to continue to develop their knowledge as a coach?

Appendix D Participant Information Sheet

Learning in the Workplace: High Performance Sport Coaching

Participant Information Sheet – coach & admin

This project is supported by the Centre of Excellence for Applied Sport Science Research and is being conducted by Steven Rynne with supervision from Dr Cliff Mallett and Professor Richard Tinning from the University of Queensland, and guidance at the Queensland Academy of Sport (QAS) by Peter Day. The main purpose of the research is to gain a better understanding of what coaches know and how they come to know it.

The research plans to access approximately 24 QAS coaches and has two parts. The first part is a questionnaire to be completed by all willing QAS coaches to collect information regarding coaching experience, professional development, and the type of knowledge considered important for a QAS coach. It will be a paper and pen questionnaire and will take about 60-85 minutes to complete. The data will help form the basis for the second stage of the project.

The second stage will consist of semi-structured interviews based on the results of the questionnaire. The semi-structured interviews will last approximately 90-120 minutes. These interviews will be face-to-face in a location convenient to the participant, and will be audio recorded for later analysis.

The surveys and interview tapes will be coded so that no individual may be identified in any publications or reports that result from the project. The information in the interviews will be treated in confidence by the researcher and each participant's transcript will be made available to the relevant participant for a review of its accuracy and for changes if needed. The study is voluntary and participants are free to withdraw at any time without question. Reports of the data collected will not allow identification of coaches except where specific permission is given

This study has received ethical clearance from the University of Queensland in accordance with the National Health and Medical Research Council's guidelines. You are free to discuss your participation in this study with project staff (details below) and if you would like to speak to an officer of the University not involved in the study, you may contact the Ethics Officer on 3365 3924.

Project staff:

Steven Rynne
Centre of Excellence for Applied Sport Science Research
Queensland Academy of Sport
(07) 3872 0270

Dr Cliff Mallett and Professor Richard Tinning
School of Human Movement Studies
The University of Queensland
(07)3365 6116

Peter Day
Sport Programs
Queensland Academy of Sport
(07) 3872 0212

Appendix E Participant Consent Form

Consent form – for taped interview (coach & admin)

Learning in the workplace: high performance sport coaching
Steven Rynne, Dr Cliff Mallett & Professor Richard Tinning

This research project is being conducted as part of a Centre of Excellence for Applied Sport Science Research PhD project. It is being carried out by Steven Rynne with supervision from Dr Cliff Mallett and Professor Richard Tinning (University of Queensland), and on-site guidance from Peter Day (Queensland Academy of Sport [QAS]).

The project is about the learning practices of QAS coaches. We are trying to understand what the workplace provides coaches with, what the organisation expects the coach to know, and how coaches learn important information at the QAS.

We are seeking your consent to participate in this research as outlined in the information sheet. The first part of this project will involve completing a questionnaire. This should take approximately 60 to 85 minutes. The data from these surveys will form the basis for a semi-structured interview. These surveys and subsequent discussions will be confidential and participants will not be identified in any publications or reports produced from this research. Each participant will be given an identity code and all documents (e.g. the surveys and interviews) will be securely stored with the coding device kept in a separate secure location.

Your participation in this research is voluntary, and you are free to refuse to participate or withdraw from the research at any time. Your refusal to consent will not affect you employment or treatment within the QAS in any way.

If you would like to discuss this research further please contact Steven Rynne on (07) 3872 0270 or Dr Cliff Mallett or Professor Richard Tinning on (07) 3365 6116. If you have any enquires regarding the conduct of the research please contact the Ethics Officer of the Office of Research and Postgraduate Studies at the University of Queensland on (07) 3365 3924.

Research Title - Learning in the Workplace: High Performance Sport Coaching

I, …… (full name) **DO / DO NOT** (please circle one) consent to participate in the research conducted by Steven Rynne, and supervised by Dr Cliff Mallet and Professor Richard Tinning. I have read the above form and accompanying information sheet and understand the nature of the study being conducted. I understand that this will not affect my treatment or employment at the Queensland Academy of Sport and that I am free to withdraw at any time without penalty.

Signed Date

…… ……/……/……

Appendix F Information on Fitzgerald Inquiry

The Fitzgerald Inquiry was an inquiry commissioned by the Queensland State Government in the late 1980s. The inquiry uncovered corruption and misconduct at the highest levels of the police force and government, and led to the jailing of government ministers and the Commissioner of Police. It also recommended a complete overhaul of the State's discredited public institutions. This has included increased accountability measures regarding publicly funded institutions such as the QAS

Appendix G Face-to-Face Questionnaire

Questionnaire procedures – Coaching development

Name: _____ Gender: M F
Date of birth: _____ Telephone: _____
Email: _____ Name of sport: _____
Occupation: _____

Level of formal education (Tick all relevant boxes and provide details where possible):
❒ High school _____

❒ TAFE/Junior College: (area of specialisation) _____

❒ University/College– Undergraduate: (area of specialisation) _____

❒ University/College – Honours/Masters: (area of specialisation) _____

❒ University/College – Doctoral: (area of specialisation) _____
_____

❒ Other: _____

Coach accreditation through National Coaching Accreditation Scheme
❒ Level 1 _____ ❒ Level 2 _____ ❒ Level 3 _____

❒ Level 4 _____ ❒ Level 5 _____

❒ Other (please specify award and year of attainment) _____
Please indicate the highest level possible in your sport _____

Please list any coaching awards/recognitions that you have won in your career: ___
_____

Please list all coaching-related organisations in which you have held membership at some point in your coaching career: _____
_____

Please explain your current employment status (including the length and stage of current contract if applicable): _____
_____
_____

1. Athletic Profile

Chart 1A: Athletic Activities

Column 1: Fill in Sport Activities Participated in
Focus on the sport activities that you have participated in throughout your entire life and please tell me about each sporting activity that you participated in on a regular basis. Sporting activities refer specifically to organised sport involvement, with a coach, practice, and competition (not leisure activities). Please list all levels (i.e., Kanga cricket, Junior soccer, etc.) of these sporting activities.

Columns 2&3: Fill in Start Year and End Year

For each sporting activity, please indicate the years in which you participated in the sport. Use a new line if you started playing the same sport again after some time off. See example.

Column 4: Fill in Total Years per Sport
For each sport please indicate how many years you participated in that sport for that period of time.

Chart 1B: Athletic Activity Profile

Column 1: Fill in Sport and Years Played
For each sport that you participated in, please indicate the years that you played that sport.

Column 2: Fill in Sport Level
For each sporting activity, please indicate the sport level. Please restrict your information to participation in organised sport activities (leisure activities are excluded).

1 – **Recreational/participation sport coaching context** = emphasis on participation and leisure over competition, basic skill development, low intensity and commitment, formal organisation but irregular and local involvement, and athletes are not selected based on level of ability. Recreational sport coaches may work with athletes at all ages, from young children to adult (i.e., recreational leagues, adult clubs).

2 - **Developmental performance sport coaching context** = more formal competitive structure, an increasing commitment from athletes and coaches, a stable relationship between athletes and coaches, and athletes are selected based on level of ability. Performance is the primary goal of participation with commitment to preparation (e.g., include high school competitive sport, university athletics, local or regional sport clubs, representative youth teams and adult competitive sport that is neither full-time nor professional).

3 - **Elite sport coaching context** = characterised by the highest levels of athlete and coach commitment, intensive preparation and involvement, public performance objectives, highly structured and formalised competition, coaches who typically work full-time as a coach, and very demanding and restrictive athlete selection criteria Examples of the elite sport coach context include college athletics in many countries, national and Olympic teams, and professional athletics.

Column 3: Fill in Assigned Leadership
For each sporting activity please indicate if you were assigned any specific leadership roles or special responsibilities (i.e., captain, assistant captain, etc.).

Column 4: Fill in the Role of Participation
For each sporting activity please indicate if you were a starter or a non-starter (i.e., reserve). Also fill in the position you predominantly played.

Column 5: Fill in Months per Year (Competition)
For each of the activities that you have participated in, try to recall the number months per year you were regularly involved in competition in that sport.

Column 6: Fill in Hours per Week (Competition)
For each of the activities that you have participated in, try to recall the average number of hours per week that you were regularly involved in competition in that sport.

Column 7: Fill in Months per Year (Training)
For each of the activities that you have participated in, try to recall the average number of months per year that you trained or practiced in that sport.

Column 8: Fill in Hours per Week (Training)
For each of the activities that you have participated in, try to recall the average number of hours per week that you trained or practiced in that sport.

Column 9: Fill in Overall Ability at Each Level
Please rate your overall ability at each level of activity that you listed. For each sport please compare yourself to other individuals at the same level. Rate your overall ability for each level of activity on a scale from 0 (lowest) to 10 (highest).

2. Coaching Profile

In this section of the interview I would like to focus more specifically on your experience as a coach. We will try to get a sense of your involvement in coaching by assessing different factors that may have contributed to your development as a coach. However, first I would like you to answer a series of questions regarding reference information.

Chart 2A: Coaching Performance

Please answer each question:
What are the highest achievements of the athletes you have coached?

Please choose the highest level you have coached at
Club/school level
Number of teams/athletes you have coached AND number of championships/competitions won at club/school level

Region or Zone level
With regard to the region or zone level, please indicate all teams/athletes coached, the years in which you were involved, your particular role(s) (e.g. assistant coach), and the results obtained

State / Provincial level
With regard to the state/provincial level, please indicate all teams/athletes coached, the years in which you were involved, your particular role(s) (e.g. assistant coach), and the results obtained

National level
With regard to the national level, please indicate all teams/athletes coached, the years in which you were involved, your particular role(s) (e.g. assistant coach), and the results obtained

International level
With regard to the international level, please indicate all teams/athletes coached, the years in which you were involved, your particular role(s) (e.g. assistant coach), and the results obtained

Chart 2B: Coaching Activities

Column 1: Fill in Sport Activities Coached
Please focus on the sport activities that you have coached in your life and tell me about any type of sporting activity that you coached on a regular basis. Please list all of these sporting activities.

Columns 2 & 3: Fill in Start Year and End Year

For each sporting activity, please indicate the years in which you coached the sport. Use a new line if you started coaching the same sport again after some time off.

Chart 2C: Coaching Activity Profile

Column 1: Fill in Sport and Year
For each coaching activity, please list the sport coached and the year(s) you coached that sport. Please indicate if the coaching occurred as part of your employment with the QAS.

Column 2: Fill in Your Role on the Coaching Staff
For each sport that you have coached, please list your role on the coaching staff (i.e. head coach, assistant coach, specialty coach).

Column 3: Fill in Age of the Athletes Coached
For each sport that you have coached, please list the age of the athletes you coached.

Column 4: Fill in the Gender of the Athletes Coached
For each sport that you have coached, please list the gender of the athletes you coached.

Column 5: Fill in Level of Competition
For each sport that you have coached, please list the sport level of the athletes.

1 - **Recreational sport coaching context** = emphasis on participation and leisure over competition, basic skill development, low intensity and commitment, formal organisation but irregular and local involvement, and athletes are not selected based on level of ability. Recreational sport coaches may work with athletes at all ages, from young children to adult (i.e., recreational leagues, adult clubs).

2 - **Developmental sport coaching context** = more formal competitive structure, an increasing commitment from athletes and coaches, a stable relationship between athletes and coaches, and athletes are selected based on skill level. Examples of the developmental sport context include high school varsity athletics, local or regional sport clubs that restrict participation based on athlete skill level, and adult competitive sport that is neither full-time nor professional.

3 - **Elite sport coaching context** = characterised by the highest levels of athlete and coach commitment, intensive preparation and involvement, public performance objectives, highly structured and formalised competition, coaches who typically work full-time as a coach, and very demanding and restrictive athlete selection criteria Examples of the elite sport coach context include college athletics in many countries, national and Olympic teams, and professional athletics.

Column 6: Fill in the Number of Coaches
For each different coaching position you held, please provide the number of coaches that were on the coaching staff.

Column 7: Fill in In-Season (Training) Time Commitment
For each of the sports and seasons coached, please list the number of months per year and number of hours per week that you were involved in coaching practices or training athletes. Please list only the number of contact hours you spent with your athletes in training.

Column 8: Fill in In-Season (Competition) Time Commitment
For each of the sports and seasons coached, please list the number of months per year and number of competitions per year that you were involved in coaching competitions (i.e. games, tournaments, or events). Please list only the number of contact hours you spent with your athletes in competition.

Column 9: Fill in In-Season Preparation/Administration
For each of the sports and seasons coached, please list the number of hours per week that you were involved in preparation or administrative activities during the competitive season (i.e. practice preparation, competition strategies, recruiting, scouting, etc.).

Column 10: Fill in Off-Season Preparation/Administration
For each of the sports and seasons coached, please list the number of hours per week that you were involved in preparation or administrative activities during the off-season (i.e. practice preparation, competition strategies, recruiting, scouting, etc.)

Column 11: Fill in Off-Season
For each of the sports and years coached, please list the number of hours per week and number of months per year that you were involved in training athletes during the off season. Off-season training includes all the time that you spent training and interacting with athletes during off-season camps or clinics

Column 12: Formal Coach Training
For each year, please list the number of hours per year that you were involved in coaching clinics or classes. Please include the time involved for all educational courses related to coaching or sport science that were done outside of a formal degree in physical education or kinesiology.

Column 13: Mentoring
For each year, please indicate the names of Mentors who you have regularly communicated with (several times for that year) in developing your coaching. A mentor is someone who you respected as a coach who subsequently helped shape your development as a coach.

3. Coaching development

Chart 3A: Coaching Progression

Please state the years for each of the coaching milestones.

_____ Age when first started coaching (any sport)
_____ Age when attended first coaching clinic _____ Never happened
_____ Age when first remunerated for your services as a coach
_____ Age when became QAS head coach
_____ Years total as a QAS head coach

Your coaching network is all other coaches that you 'regularly' contact regarding coaching practices and other coaching related roles. Please complete the questions relating to your coaching network:
How many coaches (aside from yourself) are in your coaching network?
Where are they located? (country and organisation)
How did you first establish contact with them?
How regularly do you have contact with them?

Chart 3B: Coaching Development

1. On the job experience: all of the time spent on-site participating in coaching activities
2. Personal reflection: all of the time spent on reflection directly related to your coaching job
3. Working with other colleagues: working closely with one or two other colleagues
4. Discussions with other colleagues: discussions or advice from other colleagues
5. Observing other coaches: both through formal arrangements and informal arrangements
6. Professional reading: non-formal study including access to texts, journals, newsletters, CD-Roms etc
7. Study for formal tertiary award: can include all formal education e.g. University, TAFE etc
8. NCAS/NSO/SSO Professional development programs: any professional development provided by the National Coach Accreditation Scheme, National Sporting Organisation or State Sporting Organisation including Level courses (e.g. level 2) and updating courses etc.
9. In-house programs: any programs provided by coaching employer produced 'in-house' including induction, QAS organised and run professional development programs like strength and conditioning, nutrition etc
10. Consultants: help from consultants or cluster contacts
11. Watching televised sport
12. Previous occupation
13. Other

For each of the Coaching Development Activities listed, please rate its overall value on your development as a coach at three time points. Refer to Chart 2B and reflect back on the first two years of your coaching and please rate the value of each coaching development activity on a scale of 0 to 7, with 0 being unused, 1 being little value and 7 being extremely valuable. Do the same again for middle two years of your coaching career as well as your two most recent

Chart 3C: Previous Employment

Column 1: Fill in Organisations / Employers worked **for**
Please indicate the name of all previous/current organisations with whom you have been employed

Column 2: Fill in Start, End Year and Total Years
Please indicate the start and end year for which you were employed for each organisation and also the total number of years you were employed by them

Column 3: Fill in Your Role
Please indicate the roles/positions/job descriptions that you held for each organisation

Column 4: Rate the Usefulness of the Skills/Knowledge/Discipline Learnt
Please rate the usefulness of anything you learnt while employed by each organisation using a scale of 0 to 7, with 0 being unused, 1 being little value, and 7 being extremely relevant (learning may include physical or mental skills, ethics, values, practices etc)

At the end of the interview, please ask the participant to review their responses to ensure the accuracy of the data supplied.

Athletic Activities (Chart 1A)

1	2	3	4
Sport	**Start Year**	**End Year**	**Total Yrs**
(example) Soccer	1975	1979	5
(example) Baseball	1977	1979	3
(example) Soccer	1982	1984	3

Athletic Activity Profile (Chart 1B)

1	2	3	4	5	6	7	8	9
Sport and year(s)	Sport Level	Assigned leadership	Role & Position	Competition months/year	Competition hours/week	Training months/year	Training hours/week	Overall ability
(example) Cricket 1985-86	2	Nil	Opener Batsman	4 mths/yr	1.5 hrs/wk	4 mths/yr	3 hrs/wk	5
(example) Rugby league 1988-93	3	Nil	Reserve Centre	6	2	10	10	7

Sport level
1. Recreational/participation sport coaching context
2. Developmental performance sport coaching context
3. Elite sport coaching context

Coaching Performance (Chart 2A)

Coaching Performance in your main sport:
What are the highest achievements of the athletes you have coached?

_____

_____

_____

Coaching at _____ level

Team(s) / athlete(s)	Year	Role	Result

Coaching Activities (Chart 2B)

1	2	3
Sport Coached	**Start Year**	**End Year**
(example) Soccer	1995	2003

Coaching Activity Profile (Chart 2C)

1	2	3	4	5	6	7		8		9	10	11		12	13
						In Season training		In Season Competition		In Season Admin.	Off Season Admin.	Off-Season training		Formal training	
Sport and Season(s)	Role / title	Athlete age	Gender	Level of comp	# of coaches	mth /yr	hrs /week	mth /yr	comp /yr	hrs /week	hrs /week	mth /yr	hrs /week	hrs /year	Mentor
(example) Netball 1995-1998	HC	U17	F	2	1	6	4	6	2	3	1	3	2.5	5	Vicki Wilson

Coaching Progression (Chart 3A)

Coaching milestones

_____ year when first started coaching (any sport)
_____ year when attended first coaching clinic _____ Never happened
_____ year when you were first remunerated for your services as a coach
_____ year when became QAS head coach
_____years total as QAS coach

Coaching network

How many coaches are in your coaching network? _____

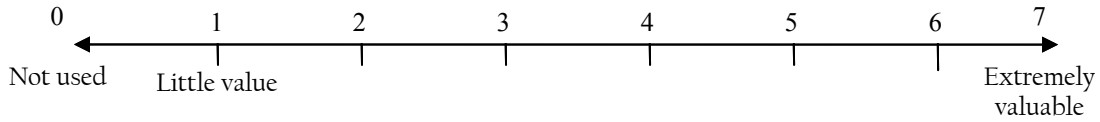
Where are they located? (country and organisation) _____
_____
_____
_____
_____
_____
_____
_____
_____

How did you first establish contact with them? _____
_____
_____
_____
_____
_____
_____
_____

How regularly do you have contact with them? _____
_____
_____
_____
_____
_____
_____

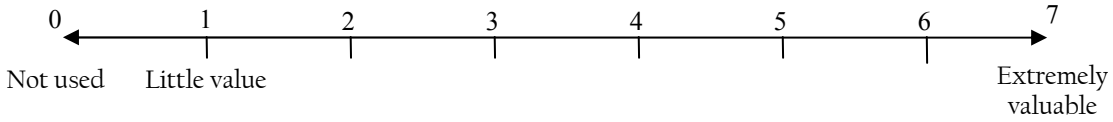
Coaching Development (Chart 3B)

Coaching development activity	Rating		
	1st 2 years	Middle 2 years	Last 2 years
1. On the job experience			
2. Personal reflection			
3. Working with other colleagues			
4. Discussions with other colleagues			
5. Observing other coaches			
6. Professional training			
7. Formal tertiary study			
8. Professional development programs			
9. In-house programs			
10. Consultants			
11. Watching televised sport			
12. Previous occupation			
13. Other			



Previous Employment (Chart 3C)

Workplace	Years and total	Role	Usefulness to current QAS coaching role
(example) McDonalds	1994-1996 3	Customer service	1



Appendix H Recommendations to the QAS

A comprehensive and detailed list of the recommendations and the justifications for them were provided in a report to the QAS. The following is an extract from the executive summary of that report:

From a better understanding of the work that QAS coaches perform, and having revealed how the QAS coaches currently learn to perform those roles, a range of recommendations were proposed. Broadly, these recommendations included the need to:

- Recognise the important work that QAS coaches perform.
- Review the policies and working conditions related to the QAS coaches so that the expectations of their work better match the practicalities of the governmental and operational restrictions placed on them.
- Continue to identify the range of sources currently available (and those not available) to QAS coaches.
- Recognise the workplace as a legitimate site of coach learning rather than focussing on 'special learning events' that require additional funding and personnel (e.g., guest speakers). While these events may contribute to coach learning, the broader view adopted by the QAS should be that learning is an everyday function of thinking and acting in the workplace.
- Position QAS coaches as being central to any professional development initiatives at the QAS.
- Consider the invitational qualities of the variety of learning experiences present in the workplace and take steps to continually improve these affordances.
- Reconsider the reward and recognition afforded to QAS coaches regarding various aspects of their work.
- Consider direct and indirect impact that the physical environment may have on the learning of QAS coaches.